

September 1946

CONSUMERS' RESEARCH

Bulletin



INCOMPLETE FILE

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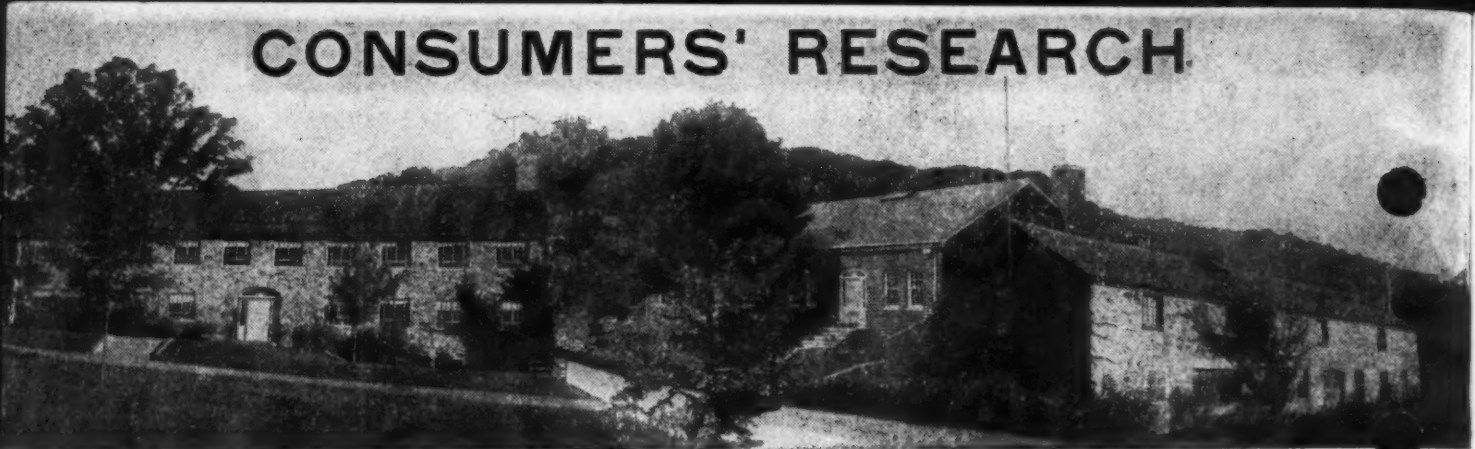
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Vol. 18 • No. 3

BULLETIN

September 1946

Off the Editor's Chest

FROM the numerous published expressions of apprehension by sales managers and other executives of automobile and appliance companies that vigorous selling methods will need to be applied in the near future to dispose of the production of heretofore scarce and much-sought-after articles, we judge that the star of the consumer may in due time be in the ascendant, and that a "buyer's market" may return. Soon, those trying days when consumers were treated as civilians in a war-time economy with no rights to prompt and courteous service, to obtain essential items for operating their household efficiently, or even repair parts for appliances and automobiles, will be a thing of the past. As strike-delayed industries get under way, the quantity of appliances and other products that can roll off the American production line is potentially so enormous that some business and economic experts are worried lest the supply outstrip demand in a few years' time, or even less.

Be that as it may, the consumer is not likely in the immediate future to be a pampered darling whose slightest need or whim is the subject of some sales manager's or corporation president's earnest attention. Sales and other service personnel, whose attitude during the period when there were many more customers than goods for sale was one of take-it-or-leave-it, will not be educated to a new approach overnight. Those who prove to be uneducable will have to find their ways into other jobs or other fields of enterprise where low standards of courtesy are tolerated. It will take time, too, to restore to normal the products lately built

to lowered standards of quality and performance (which were allowed—or forced—by government restriction orders during the war and the months following).

Just how soon these changes are accomplished will depend to some extent on how effectively consumers register their objections to poor service and poor quality. Too often when an appliance is defective, a purchase is unsatisfactory, or service is poor, people grumble to their families or friends, and the difficulty, of course, is not corrected. Neither is a telephone call or personal visit to the dealer or shop of much value. Last Easter, for example, a young mother purchased a new pair of single-strap sandals for her daughter to wear to Sunday school. After they had been worn for one day, during which the child's only outdoor activities were the trip to Sunday school and a stroll in the afternoon with her parents, the leather seam in the back of one shoe had pulled out on one side and the ribbon binding of one of the straps had pulled loose. The mother promptly took the sandals back to the dealer who, after a delay of several weeks, informed her that the manufacturer would not make any adjustment. She took back the shoes and returned them by mail to the manufacturer with a letter to the vice-president in charge of sales explaining how poorly they had worn and asked for a new pair that was not defective. The adjustment was finally made, although it took about two months to accomplish. (Part of the delay was due to the fact that the vice-president who

(Continued on page 24)

Scientific and Technical Experts and Editors: F. J. Schlink, R. Joyce, M. C. Phillips, Helen P. Alleman, A. R. Greenleaf, and Charles L. Bernier. **Editorial Assistants:** Mary F. Roberts and B. Beam.

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings: a quality judgment is independent of price; 45, 46—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least a month before it is to take effect, accompanying your notice with statement of your old address with name in full. At least three weeks' notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel.

CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

★★★ For a brief cumulative index of 1946 BULLETINS preceding this issue, see page 31.

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The Consumers' Observation Post

THE BEST MOUTHWASH is pure water, advises the American Dental Association. Many will think that a too-simple solution of the problem, but water fulfills the most important requirements of a mouthwash, and is non-irritating, cheap, and readily available. Next to plain water, the A.D.A. recommends a saline solution prepared by dissolving two teaspoonfuls of table salt in one quart of distilled water. Flavored and medicated mouthwashes are reported to produce allergic reactions in sensitive persons.

BIRDS' NESTS on or near some part of the house provide breeding places for several varieties of household pests, including clothes moths. The sheltered location provides dry conditions and favors survival of the insects, reports a trade journal titled *Pests*. At the close of the breeding season, all birds' nests should be torn down and destroyed before cool weather drives the insects indoors.

CONSUMERS' ENTHUSIASM for purchasing new appliances has begun to show a decided tendency to evaporate when the article has arrived in the dealer's shop, in some cases. One dealer reported that when he received a shipment of home freezers, he had to call 15 names on his waiting list to find two who were ready to buy. One automobile executive predicts that by next spring a highly competitive buying situation will prevail and that 50 percent of the orders now on dealers' books will have vanished into thin air, either because the prospective purchaser has secured another car elsewhere or because he no longer has the money to pay for it. Another executive of an appliance company believes that the tremendous consumer demand has been overestimated. All signs point to the fact that in the not too distant future, the consumer will once again be able to choose from a wide variety of makes and brands before he sits down to write his check.

WASHING AND IRONING CURTAINS for the fall housecleaning bout is something of a chore. One way to avoid ironing them, suggests Cleanliness Institute, is to put them up damp and run a second heavy rod or a sawed-off broom handle through the bottom hem. Chair slipcovers carefully hung on parallel clotheslines with one arm pinned on each line will dry in fairly good shape and may need little ironing.

GOOD FURNITURE is likely to be hard to find during the coming year. One of the chief bottlenecks, according to a survey by The Wall Street Journal, is skilled craftsmen in the furniture factories. In one plant, for example, the average age is 55. Many factories have instituted veterans' training programs, but it takes at least two years to turn out a good furniture worker. Add to this difficulty, the shortage of material such as furniture springs, leather for chair and settee coverings, cattle hair for cushions, and certain hard woods, and it will readily be seen that those who are setting up housekeeping for the first time will have difficulty getting what they need in the way of high-quality furniture.

WARNINGS against the use of the cold permanent wave preparations by women who have allergies continue to be sounded. Several cases of unhappy results

from cold-wave permanents have been reported in the Journal of the American Medical Association this past year and were briefly summarized in this column. New Hampshire Health News, July 1946, cautions against getting a cold-wave permanent until a patch test has been given by a physician. The New Hampshire investigation was undertaken at the request of a local physician who was reported to have treated numerous patients for severe cases of dermatitis after they had patronized beauty parlors using this method of permanent waving.

IF YOU PAID A DEPOSIT of \$100 or \$200 on a new automobile and have now decided that you would rather have the money back instead of waiting for the car, you may have trouble getting a refund. Some dealers, according to the New York Times, inserted stipulations in fine print in the purchase agreements that permit them to retain the deposits for three years without interest if they are unable to deliver the car in that time. In such a case, the only recourse the prospective purchaser has to obtain a refund is to sue in the civil courts. Read before you sign.

POTATOES are a bumper crop this year. There is such a surplus, in fact, that some 14,000 carloads have been made available to distillers as a substitute for grain, for making alcohol. Those who read the labels of the liquor they buy will find this potato product listed as "potato neutral spirits." It costs somewhat more to make than grain alcohol, but is reported to be a satisfactory substitute.

CHILDREN WITH HEART MURMURS should not be turned into chronic invalids by pessimistic attitudes on the part of their physicians, advises Dr. William D. Stroud of Philadelphia. In an address before a gathering of the American Medical Association, Dr. Stroud also suggested that too many physicians urge patients to give up their jobs and become invalids on the basis of minor electrocardiographic findings. It was Dr. Stroud's experience, with patients who had suffered heart attacks, that the average person with a healed coronary occlusion could return to sedentary occupation part time in about three months. He considers that many heart murmurs of children are of no particular importance, and should not restrict physical activities.

HIGH-PRESSURE SELLING TACTICS of Holland Furnace Company salesmen have been the subject of frequent complaints during the past six years, reports the St. Louis Better Business Bureau. Salesmen gain access to homes by offering a "free" furnace inspection. In some cases, this has involved tearing down the furnace. Then the stage is set for the appearance of a furnace company representative who advises that the old unit is in dangerous condition and should be replaced with a new Holland furnace. In a court case at Columbus, Ohio, this past spring, a Federal Judge fined the company and one of its salesmen a total of \$8500 for having sold and delivered a new Holland furnace to replace one that was only two years old, with castings in excellent condition.

ACTIVATED CHARCOAL has many uses in industrial processes, but there is no evidence to show that it is a useful or desirable ingredient of chewing gum, according to a release from the American Dental Association. Peter Paul's Charcoal Gum, so persuasively advertised on the radio, is not in the A.D.A.'s opinion superior in any respect to other brands of chewing gum. In fact, it is doubtful if the chewing of gum is desirable at all, since it contains large amounts of sugar.

CHILDREN'S PLAY CLOTHING should be made from non-flammable material. Last year following the death of several children wearing cowboy pants of a shaggy rayon material, a number of safety organizations and trade bodies set to work on the problem of preventing the reoccurrence of such tragedies. California passed a law restricting sales of flammable clothing. The National Retail Drygoods Association is reported to be organizing a program which includes limitation of sales of extremely combustible garments, promotion of the use of suitable flameproofing treatment, and adequate warnings on labels of garments.

(The continuation of this section is on page 29)



Household Electric Mixers

THOUGH household electric mixers have begun to appear in the stores, there are still only a few available.

Unlike electric table stoves, reported in CR's August 1946 BULLETIN, mixers are not readily assembled by inexperienced "loft" manufacturers with limited and inexpensive equipment. The base of a mixer is necessarily heavy in order to provide adequate stability; that means that it must be a casting instead of a stamping of thin sheet metal. A motor, if it is to operate at all and not burn out in a few minutes of working under heavy-load conditions, requires at least semi-skilled workmanship. Apparently the necessity for good equipment and skilled labor, as well as considerable capital investment, have kept "loft" manufacturers out of this field. In any event, the average quality of mixers tested is considerably higher than that of the table stoves tested.

The mixers were tested at 120 volts a-c for leakage current between the frame and supply terminals under the following conditions, tests being made in each case with the switch "on" and the switch "off": (1) as received at existing test room temperature and humidity; (2) after exposure for 24 hours to 88% relative humidity at 85°F; (3) at the maximum operating temperature; (4) after standing for not less than 48 hours at existing room temperature and humidity. With none of the mixers was the amount of

electrical leakage sufficient to be dangerous under normal conditions. Insulation was tested for breakdown by the application of 1000 volts a-c, under existing room conditions of temperature and humidity with switch on but mixer not plugged in to power supply, and at the temperature attained while the mixer was in operation.

All mixers withstood these tests. This represents an improvement over the results of tests made in 1938 on household mixers, when several of the mixers tested failed to pass the electrical breakdown tests.

The temperature rise of the motor at various points was measured after continuous operation at rated input until the temperature had become substantially constant. Only *Kitchen Kit* showed an excessive temperature rise, indicating that its motor was somewhat underpowered for its job.

Beaters and other attachments were found to be readily removed and replaced. All mixing bowls were of such shape and material as to be readily cleaned, but were of the conventional heavy, clumsy (and readily breakable) glass type. To our knowledge one manufacturer has an-



Sunbeam Automatic Mixmaster, No. 7B

nounced a mixer equipped with metal bowls, and it is to be hoped that other manufacturers will take this wise step of providing bowls of some unbreakable, light material. They could be made of light metal (possibly drawn from thin stainless steel sheets—this of course to be of proper corrosion resistance so that it would not lend contamination to foods of a salty or acid character, such as those containing vinegar or fruit juices). Suitable bowls might also be made of some lightweight but durable plastic having a proper resistance to acid and alkaline liquids over the necessary temperature range. No corrosion of any exposed surface of any mixer, or impairment of the white outside finish, resulted from the brief period of use during any of the tests made.

Some cooks like to use a



Hamilton Beach, Model E



Kitchen Kit

mixer for beating or stirring food in a regular cooking saucepan or bowl on the top of the stove, or on the kitchen table. This would be useful for beating frostings, potatoes, etc. For this purpose it is of course necessary that the mixer be of a design that permits removal of the motor and mixing blades

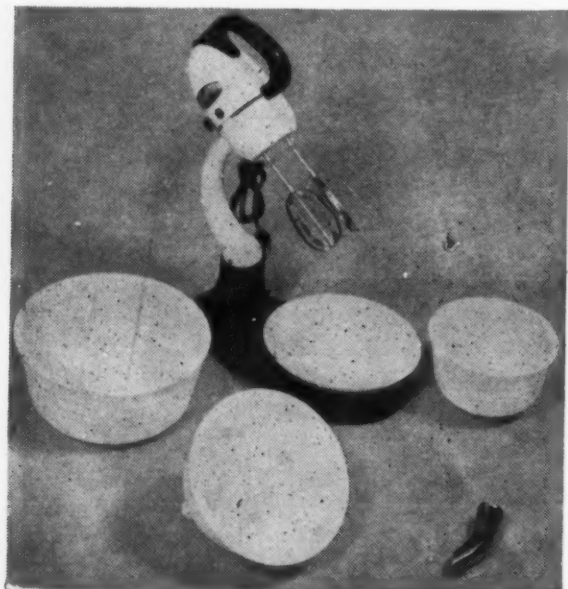
from the stand, as did all the mixers tested. In this use, too, it is particularly important that the leakage current below, because the stove and the metal cooking dish are grounded and a shock to the user might easily take place, sufficient to cause accident

through scalding or in other ways, if there were any considerable amount of current leakage. The National Safety Council recommends that no electrical appliances (including electric food mixers) be used near metal objects such as a range or sink, but there can of course be no assurance that this warning will be heeded by all or most users.

The mixers were given practical tests which

included the mixing of malted milk and of sponge cake batter, extraction of juice from oranges, and finally mixing a relatively heavy cooky batter. Results were satisfactory except as mentioned separately in the discussion of each mixer in the listings. The mixer which required the least energy input in the mixing of the cooky batter, took less than one-half that required by the one which required the highest electrical input. This factor, however, was not given significant weight in rating the appliances, as electrical energy is so cheap and the aggregate cost of energy used is so small in any case with a kitchen mixer as to make the matter of efficient utilization of power from the electrical lines a matter of no particular importance.

When operated at reasonable speeds for the operation being performed, none of the mixers splattered the ingredients, but when using the large bowls for mixing a preparation of medium consistency the beaters did not reach the ingredi-



Dormeyer, Model 3000A

ents around the top edge of the bowl and it was necessary for the user to assist by pushing the ingredients down into the bowl. Hence no one should assume that kitchen mixers are appliances that do not require any attention from the user while their work is being carried on.

While all the mixers were fairly noisy in operation, two were considerably less so than the others. This was noted in the listings. All of the mixers tested can be used with attachments, e.g., beverage mixer, food chopper, can opener, pea sheller and bean slicer, etc. Inquiry of the manufacturers revealed that these attachments were not yet in production by Sunbeam and Dormeyer and would not be available for some time. Gilbert's *Kitchen Kit* had only the food chopper, can opener, and beverage mixer available at the time the mixers were purchased.

A. Recommended

Sunbeam Automatic Mixmaster, No. 7B (Sunbeam Corp., Chicago 50) \$28.45, including two white glass bowls, white glass juice extractor bowl, with detachable metal spout, porcelain fruit reamer, wire strainer, and two large-sized beaters or mixers. Speed control, continuous type, provided by conveniently placed knob at the rear of the motor, and marked from 1 to 10; also marked with type of operation speed best suited to, e.g., No. 3, mixing cookies and fruit cakes, No. 5, whipping potatoes, etc. Speed range of mixing blades, 150 to 1010 rpm. Relative position of beaters and mixing bowl adjustable by locating turntable pin in one of two holes, the hole nearer the center of base being used for the smaller bowl, the other hole for the larger bowl. Beater height adjustable by means of small screw in stand. Unit on mixer originally tested was found to operate only at low speed; a replacement motor accordingly had to be furnished, and this was found to

function satisfactorily at various speeds. (A similar defect occurred with the *Sunbeam Mixmaster* tested by CR in 1938.) This may indicate insufficiency of factory inspection, whence the prospective purchaser would do well to try the mixer's various speeds in the store before buying. Beaters were ejected for cleaning by turning a large handle at top of mixer. Power input at full rated load, 120 watts at 115 volts. Radio interference slight at high speed, very noticeable at low speeds. Relatively quiet in operation. Performance: In juicing oranges, excellent (time required for 6 oranges, 117 seconds); ranked first in speed of mixing malted milk (requiring 68 seconds); ranked second in speed of mixing sponge cake batter (359 seconds), texture of mix when baked, good; ranked second in speed of mixing refrigerator cookie batter (196 seconds). Oiling required at 5 points every 2 weeks under heavy usage, every month under light usage. Manufacturer recommends inspecting gear grease once a year.

B. Intermediate

Hamilton Beach, Model E (Hamilton Beach Co., Div. of Scovill Mfg. Co., Racine, Wis.) \$24.85, including two white glass bowls and two mixers or beaters; \$27.75, with foregoing equipment and juice extractor consisting of white glass extractor bowl with detachable metal spout, porcelain reamer, and metal disk strainer. Speed control, continuous type, operated by small lever on side of motor with indicator which points to a scale graduated from 1 to 15. Speed range of mixing blades, 270 to 1040 rpm. Relative position of beaters and mixing bowl adjustable by means of a lever which changed position of turntable on which bowl rests. Power input at full rated load, 120 watts at 115 volts. Radio interference slight at high speed, very noticeable at low speeds. Relatively quiet in operation. Performance: In juicing oranges, fair (time required for 6 oranges, 172 seconds); ranked fourth (slowest, 180 seconds) in mixing malted milk (some of the malted milk powder remained at bottom of bowl); ranked third, with *Dormeyer*, in speed of mixing sponge cake batter, but texture after baking judged poorer than that of cake mixed in

the other food mixers; ranked first in speed of mixing refrigerator cookie batter (171 seconds). Leakage current, under high humidity conditions exceeded CR's tolerance for electrical current leakage. Oiling required at 2 points in motor once a month under light usage.

Kitchen Kit, Model B-27 (A. C. Gilbert Co., New Haven, Conn.) \$34.48, including two white glass bowls, white glass juice extractor bowl with detachable metal spout, porcelain fruit reamer, metal disk strainer, two mixers or beaters, and food chopper. Equipped with built-in mechanical power outlet for attachments requiring considerable power at low speed, such as meat grinder, can opener, etc. Speed control, continuous type, operated by convenient knob at the rear of motor, marked from 1 to 16. A metal plate on motor suggests proper speeds for 8 mixing operations. Speed range of mixing blades, 260 to 1180 rpm. Relative position of beaters and mixing bowl adjustable by turning motor and beaters about a vertical axis. Turntable on which bowls rest could be raised or lowered by turning screw. Maximum temperature rise of motor 117°F, highest of all mixers tested, greatly exceeding limits of applicable specifications. Power input at full rated load, 180 watts at 115 volts, highest of the four mixers tested. Radio interference very bad at all speeds, although instruction book claimed "a condenser prevents radio interference." Noisy in operation. Performance: In juicing oranges, very good (time required for 6 oranges, 109 seconds); ranked second in speed of mixing malted milk (requiring 120 seconds); ranked first in speed of mixing sponge cake batter (351 seconds), but small amount of ingredients in center of bowl not completely mixed, possibly due to a defect in the device for locking the turntable at the correct height, which permitted too large a space between bottom of beaters and bottom of bowls. Texture of mix when baked, good. Ranked fourth (slowest) in speed of mixing refrigerator cookie batter (353 seconds). Leakage current excessive after 24 hours' exposure at high humidity. Oiling required at 2 points twice a year for ordinary use. A detailed test was not made on the food chopper or

meat grinder as this was the only mixer equipped with this device. The chopper worked satisfactorily, but due apparently to an incorrect lining up of shafts, gave an uneven, periodic noise. Insertion of a replacement grinder unit furnished by the maker corrected this fault.

C. Not Recommended

Dormeyer, Model 3000A (*Dormeyer Corp.*, Chicago) \$20.95, including two white glass bowls, white glass juice extractor bowl with detachable spout, porcelain fruit reamer, and two mixers or beaters. No strainer provided. There were three marked speeds, controlled by a switch con-

sisting of small knob at the side of the motor, which was inconvenient and difficult to turn. Speed range of mixing blades, 325 to 1330 rpm. Relative position of beaters and mixing bowl adjustable by rotating motor and beaters about a vertical axis. Bowl could be raised or lowered by adjusting (with a wrench) the threaded bearing for turntable. Power input at full rated load, 75 watts (lowest of four mixers tested). Radio interference very slight at all speeds. Performance: In juicing oranges, good (time required for 6 oranges, 198 seconds, slowest of mixers tested); ranked third in speed of mixing malted milk (150 seconds);

ranked third, with *Hamilton Beach*, in speed of mixing sponge cake batter (382 seconds); texture of mix when baked, good; ranked third in speed of mixing refrigerator cookie batter (316 seconds), but ingredients very poorly mixed. The low power of the motor was reflected in the fact that it stalled and required assistance to complete the last-named mixing operation. Noisy in operation. According to maker's directions, no oiling required. Mixer was top-heavy with juicing attachment in place. Screws holding feet in position protruded below the bottom of the feet, and therefore scratched the table surface.

Miniature Camera for Black-and-White and Color Photography

IN the August 1946 BULLETIN, we reported results of our examinations of the first of the post-war cameras; the findings were very disappointing, as the cameras proved to be of poor or mediocre quality. It is, therefore, a pleasure to be able to present our report on a post-war camera now available that is of pre-war quality. Unfortunately this is a miniature camera and hence of limited utility and scope. It is the *Kodak Bantam*, which takes No. 828, the so-called *Bantam* size film (28 mm. x 40 mm. or 1 1/8 in. x 1-9/16 in.), which is only slightly larger than the 35 mm. motion picture film used in most miniature cameras. This small film size is not so well adapted for black and white work as a larger-sized camera, but the small size is almost necessary in color work if costs are to be kept within reasonable limits, and a small size, too, is well adapted to the usual method of using *Kodachrome* pictures

by projecting them upon a screen with a slide projector.

Many amateurs are interested in the advertising of firms which make enlarged color prints from small 35 mm. and *Bantam*-sized transparencies. A preliminary study by CR of color prints made by Eastman Kodak in this way seems to indicate that the color enlargements still fall a long way short of being as satisfactory as the originals from which they are made. In some of the prints made for CR from correctly exposed transparencies, the colors were much darker than in the transparencies, contrast was excessive, and the characteristic tendency for the print to be too blue was in evidence. Color prints are quite expensive at present, Eastman's prices being \$3.50 for a single 5 in. x 7 in. print, 85c for 3 in. x 4 3/8 in., and 60c for 2 1/4 in. x 3 1/4 in. prints (minimum charge \$1 per order).

A. Recommended

Kodak Bantam (Eastman Kodak Co.,

Rochester, N. Y.) \$29.75, including tax. *Kodak Anastigmat Special* f:4.5 lens. Takes pictures 28 mm. x 40 mm. (1-1/8 in. x 1-9/16 in.) on special *Bantam* size 8-exposure roll film. Shutter speeds 1/200, 1/100, 1/50, 1/25 second, time, and bulb. Focusing from 2 1/2 ft. to infinity by revolving front lens element. Front of camera springs into operating position on "lazy tongs" type of structure by pressing a button. Shutter release on camera body. Finder of the ordinary direct vision folding type. On one edge of the film there is a single perforation at each picture position; a simple device in the camera stops the winding of the film when the frame is in position for exposure, and pressure on a button releases the film again for winding to the next frame. A green window in the center of the camera back permits visual check of the number of the frame. Quality of lens, excellent; definition at full opening (f:4.5) judged approximately equivalent to that of the f:2 *Sonnar* of the *Contax* when stopped down to about f:5.6 or f:8. When the camera is used for making *Kodachromes* for projection, the cost per picture of the 8-exposure rolls is only slightly greater than for the 18-exposure rolls. The actual cost per satisfactory slide may even be

less, because many users of the 18-exposure roll will be tempted at times to "shoot off" the last few exposures on subject matter of little interest in order to complete the roll and send it on for finishing. In comparing the camera with other cameras of equivalent size, it must be noted that the cost of the black and white rolls bought in *Bantam* size is higher than the standard-size 35 mm. film as used in *Leica* and *Contax*, as the latter film can be purchased in bulk. With *Koda-*

chrome, a large proportion of outdoor pictures is taken in a range of lighting conditions for which exposures of 1/25 to 1/50 second at apertures from f:4.5 to f:5.6 are suitable; a maximum opening of f:4.5 and a maximum shutter speed of 1/50 second are therefore all that would normally be needed. The *Bantam* camera is of simple, practical design, without luxury gadgets of any kind. It is much smaller than any of the better-known cam-

eras using 35 mm. perforated film. While the camera lacks the elegance of finish and attractiveness to the advanced amateur that are characteristic of the top-grade pre-war German miniature cameras (*Leica*, *Contax*, etc.), its design and performance are quite satisfactory. The rating of *Kodak Bantam* with special f:4.5 lens as *A. Recommended* for use with *Kodachrome* does not apply to other *Bantam* models equipped with lower-grade lenses.

Aerosol Insecticides

JUDGING from the very large number of recent news accounts, advertisements, prize contests, and retail store displays, aerosol bombs for disseminating insecticides, chiefly DDT, represent one product in which there have been no post-war shortages, either of materials or of words.

By definition, an aerosol is a smoke or fog formed by minute particles of a liquid or solid, or both, which remain suspended in the air for a considerable time. Aerosol insecticide bombs consist of insecticides, usually pyrethrum and DDT, and non-volatile solvents dissolved in a liquefied, compressed gas. Upon opening the valve, this mixture is forced out through a siphon tube and a minute nozzle opening, emerging as a fine mist ranging in average particle size or from about 2/10,000 to 6/10,000 inch. Almost instantly upon release, the compressed gas evaporates, leaving the insecticidal chemicals and non-volatile solvents more or less suspended in the air as a true aerosol. Because of its ability to float and diffuse freely in the air, an effective aerosol will

disperse to all exposed areas of a room or other enclosed space and, if the amount released is sufficient, will inactivate and kill all insects either flying or resting on exposed surfaces.

The development of liquefied gas aerosol insecticides was begun by the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, several years ago. A public service patent, assigned to the Department of Agriculture, was granted to L. D. Goodhue and W. N. Sullivan. Public ownership of the basic patent sets up an unusual situation in that Agriculture Department li-

Who has a refillable 3% DDT bomb? **3.98**

(ANOTHER BOMB IF YOU BOMB IN YOUR CITY) **2.00**

Gimbels, of course

Macy's
3% DDT
Aerosol Bomb

used by the millions by the United States Army

First in at Mandel's Chicago!

2.98 2.49

3.98 WRITE, PHONE, WIRE

Aer-A-Sol 1-lb. "bomb"
3% D.D.T. insecticide

censing is granted only to manufacturers who use propelling gases approved by U. S. Public Health Service and formulas tested for effectiveness and approved by the Dept. of Agriculture bureau named. Basically, therefore, every firm manufacturing and selling aerosol bombs under license is under obligation to produce relatively safe and effective products.

For the bombs containing DDT, a 3 percent strength has been set by the Public Health Service as the strength that can be used with safety, and all bombs examined contain this stated percentage of DDT together with pyrethrum extract. The inclusion of DDT was a war-emergency measure due to the shortage of pyrethrum. It has been carried over into the civilian market both because of the consumer demand for DDT products that was built up by the extraordinary publicity given this substance, and because it costs less to produce a DDT aerosol than an equally effective one based entirely on pyrethrum or other killing agent relatively safer to human users.

All bombs thus far being marketed utilize so-called high-pressure liquefied gases and are under strict regulation for safety of construction by the Interstate Commerce Commission. As this is written there are several so-called low-pressure bombs under development, at least two of which expect to reach the 1947 market. These, though considerably cheaper than present bombs, will give similar performance.

The consumer has a choice this season of refillable bombs, or of non-refillable types which are thrown away when empty. Generally the refillables retail

for about \$3.95 and the throw-aways for \$2.95. With the refillable bomb, the dealer gives a credit of about two dollars for the empty container when a new bomb is purchased, so that the actual cost of the refillable is somewhat less—as long as the dealer remains in business and the offer holds good.

Competition is becoming so keen that sharp price reductions may be anticipated for both types. The best buy discovered in customer shopping in early July was the *Mist-O-Mizer* bomb, Regal Chemical Company, which was retailing in Newark, New Jersey, for \$2.89 with an 89c credit on the spent bomb when exchanged for a new one.

Another type now being marketed in packets of 3 for about 50c is a small unit resembling a carbon dioxide bulb such as employed for charging soda dispensers. This device is equipped with a breakable tip which releases about 0.3 oz. of aerosol liquid and is claimed by one manufacturer to be suitable for treatment of 5000 cubic feet of space. These units are very expensive for the amount of material provided, and will not do a good job of controlling exposed insects in the space claimed. The same manufacturer, Matco Products, Inc., Burlington, Vt., uses 5 percent DDT in his widely-distributed product, and does not indicate licensing by the Department of Agriculture.

A bomb containing about 1 pint or 1 pound of aerosol liquid is adequate, under ideal conditions, to kill all flies or mosquitoes in 150,000 cubic feet of enclosed space, equivalent to 75 rooms of average dimensions. Ideal conditions

include precise measurement of dosage, use in empty, tightly closed rooms, air temperatures of 70° to 85°F, and a considerable amount of general professional skill. It is extremely doubtful that the average consumer will ever realize more than one-half, or less, of this potential performance.

Aerosols are widely advertised for the control of bedbugs, roaches, clothes moths, ants, and other insects that spend most of their lives in hidden locations such as deep wall cracks, chests of woollens, in bedding, and so on. There are no acceptable records of tests by qualified entomologists to support these advertising claims. Any of the insects named *which are exposed to a sufficient quantity of the aerosol particles* will be killed, but since most are in hiding in confined areas to which the aerosol may or may not penetrate, this is of little value in permanent control efforts. The amount of DDT deposited on surfaces from an aerosol treatment is so small that absolutely no residual or long-lasting effect can be expected from it. Any good non-DDT liquid spray properly applied into the openings of insect hide-outs, will be more effective against the hidden insects than will an aerosol released within a room. Even more effective, according to some experts, are correctly applied dry-powder insecticides of the proper type; these give more effective covering of hidden recesses in walls, etc., than either sprays or fogs.

Aside from their questionable value in combating any except *exposed* insects, the chief objection to aerosol bombs as sold at present lies in the cost of this method of control. As noted earlier, if properly used,

a single bomb will treat at least 150,000 cubic feet. This is the equivalent of 15 successive treatments of an average-sized 5-room house. On this basis, treatment is no more expensive than where a good fly spray is employed. In home use, however, it is doubtful that an average of more than one-half the rated effectiveness is being obtained, due both to a general, probably unavoidable, tendency to overdose (*since no means of metering the outflow of the aerosol mixture is provided*, except on the basis of time the valve is left open) and to mechanical failures.

Mechanically, the valve mechanism frequently fails to open, in which case, presumably, the purchaser can return the defective bomb for exchange or refund. Of much more importance, there have been a large number of instances in which the valve failed to close properly after use and all remaining contents have been lost. In such a case there appears to be no basis that is accepted by dealers and

others for refund or exchange. Both types of failure appear to be due to clogging of the mechanism rather than to mechanical defects.

The aerosol as it emerges from the nozzle, with rapid expansion of the highly volatile gas propellant, will freeze skin and flesh. At least two cases of severe injury to the palm of the hand, one of a young child and one, an adult, have been reported from attempts to stop the flow from an open nozzle.

With due consideration of the cost, imperfect mechanical performance, some degree of hazard, and excessive advertising claims, the aerosol method of control of flying insects in enclosures has several advantages over the use of more conventional fly sprays.

The bombs are an attractive device, convenient to place on shelf or bedside table for instant use, require very little effort to operate, and are fast in action against flies and mosquitoes. Because of their speedy action against clothes

moths, silverfish, and roaches when these insects are sufficiently exposed to be reached by the aerosol mist, they greatly impress the average consumer; nevertheless other methods are actually considerably more effective in the control of these insects.

In the light of both experience and technical data, no specific recommendations for CR BULLETIN readers appear desirable. Because the bomb is an intriguing gadget and a highly-publicized device, most consumers will have an insect problem on which they may wish to try at least one unit—unless discouraged by the high purchase price. Home experience therewith may be the best basis for individual decision as to whether or not the aerosol bomb will continue as an accepted procedure for household insect control. Assuming that manufacturers make needed mechanical improvements and bring about reductions in the selling price of the appliance, it very probably will fill a useful place in insect control.

Soap—Water-Softener Mixture—Laundry Gems

A PRODUCT now being widely sold in grocery stores is *Laundry Gems* (Gem Products Sales Co., Camden, N.J.). According to the label of this package (6 oz. for 8c), it is "the new safe way to wash clothes," and is "highly concentrated." The label further explains that the product is "soap, bluing and water-softener, perfectly balanced." This label seems quite misleading, since the average housewife would consider that it was suitable for general washing purposes, and that the only ingredients present in any amounts were those named,

soap, bluing, and water-softener, and that the water-softener would be correct in amount for water of any hardness, which is not possible of course. Actually, *Laundry Gems* is judged to be about 44% sodium borate (equivalent to 83% borax), 22% soda soap, and 9% trisodium phosphate. The pH value of the mixture is about 9.2, which is below that of a soap solution.

It was found by test on specimens of wool and rayon fabrics that use of *Laundry Gems* according to directions

on the package would result in an appreciable loss of tensile strength. The loss on wool in one direction of fabric was around 18%, in the other about 3%, after 3 launderings. On rayon the loss was also significant, about 18% in one direction, and only a little in the other. Use of *Laundry Gems* also caused a more severe bleeding of colors of samples tested than similar samples which were washed in a neutral soap solution. The product would not be considered satisfactory for the washing of wool and silk, but would probably be satisfactory for cottons.

Electric Table Broilers

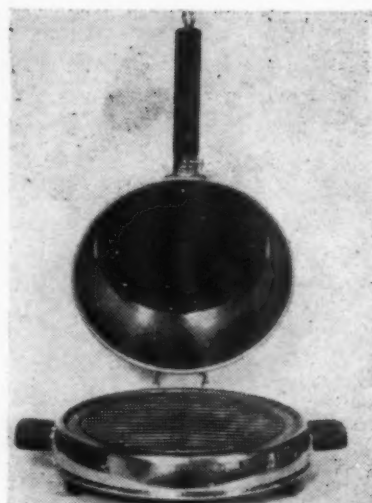
EXCEPT that current prices are approximately double those of 1940, electric table broilers have changed little and show no signs of improvement since they were tested by CR and reported in the June 1940 BULLETIN.

A broiler is substantially an electric heating unit set in a hollow shell, which is inverted over a base containing the food to be broiled. The heating units used in the broilers tested were mainly of the open type consisting of coiled resistance wires set in ceramic blocks, similar to those used in electric table stoves of the poorer type, except that the broiler units are usually larger in diameter, and often have two windings to provide two "heats." Two of the broilers had the open resistance wire supported in small ceramic insulators. Some units used glazed ceramic blocks; these are much to be preferred, because easier to clean, over those with unglazed (lava) blocks. Like table stoves, broilers embodied a simple and cheap type of construction, and therefore could readily be assembled by "loft" manufacturers with minimum investment in machinery, and with low-priced labor. The chromium-plate finish was in general superior to the finishes used on the cheap electric

stoves reported in our August 1946 BULLETIN.

For the established household with a satisfactory cooking range, the need for a "table" broiler would seem remote. Such appliances, however, may be useful in apartments or in houses where two or more families have had to double up because of the housing shortage. The difficulty of storing such a bulky appliance would often be a problem, even in kitchens with adequate storage space; in many cases the broiler would have to be left on the work table when not in use, where it would take up valuable space.

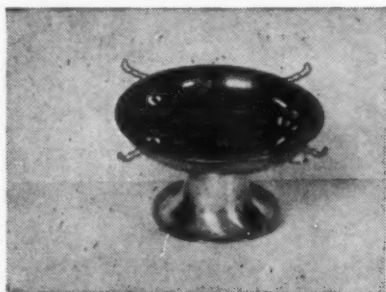
The designation "table" broiler is a misnomer, since it implies that the broiler is suitable for use at the dining table. Actually, when used for broiling meat, *all* of the tested broilers smoked too much to be



Manning Bowman, Cat. No. 15 00

acceptable at the table, and some got so hot that there would be danger of scorching a polished table top or a tablecloth. In every case the attachment plug became too hot under normal operating conditions to be handled with bare hands; since few housewives are accustomed to wear asbestos gloves at the dinner table, that means either that a cord switch capable of carrying about 15 amperes at the usual 110 to 120 volts must be provided, or that the current must be turned off by removing the plug from the baseboard or wall outlet. The handles of some of the broilers also became too hot to touch, under normal operating conditions.

Electrical leakage tests were made on the broilers: (a) at room temperature as received, (b) after exposure for 24 hours to conditions of 85 percent relative humidity at a temperature of 85°F, and (c) at the temperature attained while the broiler was in operation. All broilers except *Thermo Broiler* were found satisfactory in this respect.



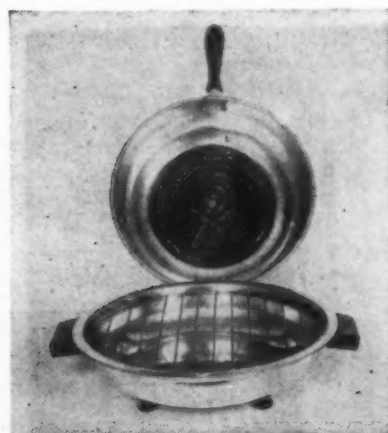
Broilmaster, Model 8000

	<i>Time to Pre- Heat</i>	<i>High Heat</i>	<i>Low Heat</i>	<i>Total Time Includ- ing Pre- Heat</i>	<i>Total En- ergy Con- sumption, Watt Hours</i>
	M i n u t e s				
<i>Manning Bowman</i>	5	18	5	28	350
<i>Broilmaster</i>	7	12	*	19	255
<i>Holliwood</i>	5	12	12	29	555
<i>Prak-T-Kal</i>	10	7	7	24	375
<i>Prevore</i>	10	12	0	22	390
<i>Ritz</i>	6	17	0	23	310
<i>Thermo Broiler</i>	10	12	0	22	359

* Single-heat unit

Table 1

Breakdown tests, at 900 volts, 60-cycle alternating current, were made on the broiler as received, and at the temperature attained while the broiler was in operation. No failures took place at room temperature. All except the *Manning Bowman* broiler withstood the test at operating temperature; this broiler was provided with a hinged guard to prevent accidental contact of the fingers with the third (unused) pin of the three-terminal receptacle, and flashover occurred at 900 volts between the exposed pin and the guard.



Thermo Broiler, Super Model 20

The user of a broiler such as these should bear in mind that the presence on the unit of any residue resulting from broiling or other cooking operations increases the probability of electrical leakage, and hence the shock hazard. For that reason it is important that broiler units be cleaned thoroughly after use; the broilers which are provided with units that are readily removable will be found the most convenient in this respect.

To test for possible fire hazard, a double layer of dry clean cheesecloth was placed beneath each broiler, resting on a wooden-top table, and the broilers were operated intermittently for an hour on a repeating cycle of 10 minutes heating followed by 5 minutes of cooling.

Average temperatures at the plane where the food is placed for cooking were measured at 5-minute intervals for 15 minutes after connecting the broilers into the circuit at "high" heat. These temperatures were measured by means of five specially designed thermocouple units, one at the center and the other four symmetrically placed in the outer portion

of the broiling area. The averages of the temperature observations are given in the listings.

Two of the broilers, *Prevore* and *Thermo Broiler*, were equipped with temperature indicators, but their graduations were far from satisfactorily legible. Those of the *Prevore* were almost unreadable after the test.

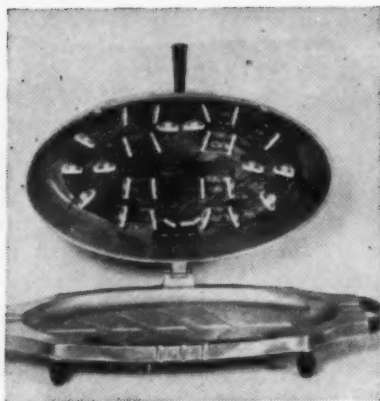
Practical broiling tests were made, in which pork chops of as nearly as possible uniform size were broiled to a point considered "well-done." In these tests, the manufacturers' instructions were followed. Pre-heating time, broiling time, and total energy input were noted in each case, and the results are given in Table 1.

Judging by the instructions which came with the broilers, it was evident that at least some of the manufacturers were not familiar with the performance of their products, for the instructions of two of the broilers that were fastest in speed of heating called for the longest pre-heating times.

After one hour continuous normal broiling operation the temperature of the table surface directly beneath each



Ritz



Holliwood, Model No. 7Bj

broiler exceeded 150°F (tentative limit established as a safe temperature at the table top) in all cases. The highest table top temperatures were produced by *Prak-T-Kal* and *Thermo Broiler*. (The *Broilmaster* could not be used on a wooden table top as the bottom of the frying pan used with it went up to a temperature of 550°F, which would readily char wood.)

Cord sets were not furnished with the *Broilmaster* and the *Ritz*, but came with all the other broilers and carried the Underwriters' red label on the cord. The appliance plugs, however, had steel sockets (instead of the preferable brass or bronze) in all except the *Holliwood*, which had brass and carried the Underwriters' Laboratories' label on the plug itself.

Broilers are available in a large number of models, at prices from about \$11 to \$19 (New York City). (Price range in 1940 was approximately \$6.95 to \$8.95.) A tendency to mark down prices and to sell out floor samples of some models was noted. The very low-priced *Broilmaster* is a brand which is widely advertised and sold and has been seen in windows of many electrical shops

and appliance dealers.

All of the broilers with the exception of the *Broilmaster* were equipped with bases having handles and feet so that they could be used as serving trays. In the listings, the rated watts are shown, followed by the actual watts in parentheses.

B. Intermediate

Manning Bowman, Cat. No. 1500 (Manning Bowman & Co., Meriden, Conn.) \$13.20. Wattage, 800 and 300 (800 and 294). Heating unit had glazed ceramic block (7 in. diameter) and was removable for cleaning. Wire grill, 9 in. diameter. Removable drip tray with well in center to catch fat. Guard provided over terminals to prevent accidental contact of fingers with unused terminal. Ranked slowest in speed of heating and sixth of seven in total broiling time for pork chops. Temperature at cooking level after 15 minutes, 514°F. Temperature of handles satisfactory. Energy consumption about average. No tendency to scorch table top. Despite its slow heating and cooking and the flashover which occurred between guard and terminal at 900 volts, this broiler is considered superior to the others tested in a sufficient number of respects to justify its B rating; however, its slow speed of heating would be a disadvantage



Prevore Chromium



Prak-T-Kal

to some users. Neat, rugged construction.

C. Not Recommended

Broilmaster, Model 8000 (Faraday Electric Corp., Adrian, Mich.) \$3.95, less cord. Not a complete unit like other broilers tested, but to be used in combination with a frying pan (not supplied). Wattage, 800 (803). Heating unit fastened to grill by ceramic insulators, unit easily removable for cleaning and convenient to use, but due to high temperature of frying pan which is in direct contact with the surface on which it rests, it is not suitable for use on wooden-top tables, even when placed on the heat-resistant pads in common use. Diameter of grill, 10 inches. Guard provided over terminals to prevent accidental contact of fingers with terminals. Ranked fourth in speed of heating, but first (fastest) in the total broiling time (pre-heat, plus broiling) for pork chops. Fat from chops spattered on the table. Temperature at cooking level after 15 minutes, 618°F. Temperature of handle, 330°F (the hottest of any tested and greatly exceeding generally accepted maximum safe temperature for more than momentary contact). Energy consumption below average. Removable base furnished to which broiling unit could be attached when inverted, to permit use of the appliance as a table stove.

Holliwood, Model No. 7B, Cat. No. 40 (Finders Mfg. Co., Chicago)

ST. PAUL, MINNESOTA

\$19.95. Wattage, 1450 and 800 (1405 and 790). Heating unit, oval shape, 12 x 6½ in. supported on thin metal plate by ceramic insulators. Unit easily removable for cleaning. No guard was provided over terminals to prevent accidental contact of fingers with terminals, which is a serious defect. One of the two fastest in speed of heating but slowest in speed of broiling for pork chops. Fat splattered through opening onto table. Temperature at cooking level after 15 minutes, 777°F. Temperature of all handles too hot for satisfactory handling. Energy consumption highest of all broilers tested. Did not tend to scorch table top.

Prak-T-Kal (Practical Electric Products, Inc., N.Y.C.) \$11.87. Wattage, 1000 and 350 (1155 and 410). Heating unit had glazed ceramic block (7¾ in. diameter) and was easily removable for cleaning. Wire grill, 11¼ in. diameter with removable drip tray. Attachment plug unsatisfactory. No guard over terminals but the 3-prong appliance plug with dummy receptacle covered all pins thus reducing hazard. One of the two fastest in speed of heating. Fourth in speed of broiling. Temperature at cooking level after 15 minutes, 910°F; too high, considering maker's directions for broiling time, as chops started to burn on high heat. Temperature of handles satisfactory. Energy consumption about average. Some tendency to scorch table top. The

upper unit, comprising the broiling element, was equipped with feet so that it could be turned over for use as a table stove. The handle of the top part became loose during the test so that it could not be inverted by use of one hand.

Prevore Chromium (Prevore Electric Mfg. Co., Brooklyn 15, N.Y.) \$16.25. Maker's name not legible. Wattage not stated (1058 and 332). Heating unit had glazed ceramic block (6¾ in. diameter), and was removable for cleaning. Wire grill, 10 in. diameter with folding legs. Removable drip tray with "fat well" in center. Equipped with temperature indicator. It had a three-prong appliance plug with dummy receptacle so arranged that all terminal pins were covered, thus reducing shock hazard, but terminals not provided with guard (a serious defect). Attachment plug was of unsatisfactory quality. Ranked third in speed of heating; second, with *Thermo Broiler*, in speed of broiling. Temperature at cooking level after 15 minutes, 770°F. Temperature of handles too hot for satisfactory handling. Energy consumption slightly above average. Did not tend to scorch table top. The upper unit, comprising the broiling element, was equipped with feet so that it could be turned over for use as a table stove. Temperature indicator housing did not fit tightly in its mounting.

Ritz (Marlin Mfg. Co., N.Y.C.) \$16.46, less cord. Wattage, 800

and 300 (808 and 229). Heating unit had glazed ceramic block (8 in. diameter) and was removable for cleaning. Wire grill, 12 in. in diameter. Removable drip tray dished to catch fat. No guard provided over terminals (a serious defect). Below average in speed of heating; ranked third in speed of broiling. Temperature at cooking level after 15 minutes, 529°F. Temperature of one handle of lower section too hot for satisfactory handling. Energy consumption, below average. No tendency to scorch table top. The upper unit, comprising the broiling element, was equipped with feet so that it could be turned over for use as a table stove.

Thermo Broiler, Super Model 20 (Thermo Broiler Co., Brooklyn 17, N.Y.) \$19. Wattage, 1000 and 400 (961 and 400). Heating unit had glazed ceramic block 7½ in. in diameter which was removable for cleaning. Wire grill, 12¼ in. in diameter. Removable drip tray. Attachment plug unsatisfactory. No guard provided over terminals to prevent accidental contact of fingers with unused terminals, a serious defect. Below average in speed of heating. Ranked second with *Prevore* and *Broilmaster* in speed of broiling. Fat from chops splattered on table. Temperature at cooking level after 15 minutes, 535°F. Temperature of handles, satisfactory. Leakage current at operating temperature exceeded CR's limit. Energy consumption about average. Did not tend to scorch table top.

Tish—Water Softener and Cleanser

Tish is a water softener and cleanser that is now being widely marketed (25c for 1½ lb. package). Although it purports to be a "new scientific development (that) says goodbye to dirt and grease in a jiffy," its analysis and pH indicate that the sample is predominantly trisodium phosphate with sodium carbonate (washing soda). The pH of a 1% solution is a little under 12, corresponding to a high degree

of alkalinity, and while the label claims *Tish* "contains no caustics," one must assume that this statement will be misleading to many users, since the material *does* contain highly alkaline materials (the layman is not likely to suppose that only sodium hydroxide is meant when the term caustic is used). The claim for deodorizing value is likewise somewhat misleading, except in the sense that clean surfaces do lack odor or

have a pleasing smell, and *Tish* does clean. The housewife who can buy trisodium phosphate under its own name or under one of the brand names of trisodium phosphate (such as *Tri-S-P*, *Mel'o*, *Climalene*) will get much the same results as with *Tish*, at less cost. (*Dif* and *Oakite* are also trisodium phosphate [tsp.] products, but as it happens are no cheaper as ways of buying tsp. than is *Tish*.)

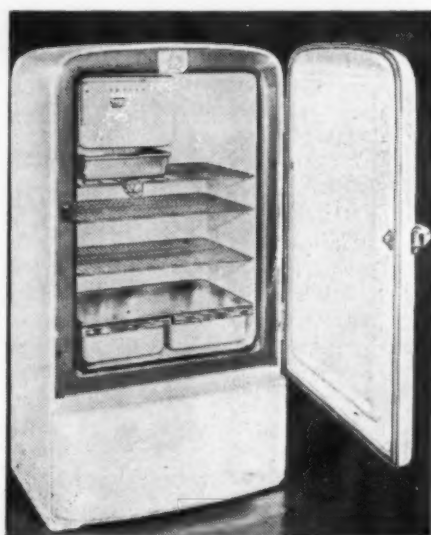
Refrigerators

As CR has pointed out in previous BULLETINS (May and July), many of the major electrical appliances on the market are the same as were produced by the same manufacturers in 1941, and thus in most cases there would be no point in retesting these products at considerable expense, when the brands are such as have already been covered by information in previous BULLETINS of Consumers' Research. (A long list of the latest pre-war refrigerators—including one each of Sears' *Coldspot*, Ward's, *Frigidaire*, *General Electric*, *Hotpoint*, *Kelvinator*, *Norge*, *Philco*, *Crosley*, *Servel Electrolux*, *Stewart-Warner*, and *Westinghouse*—were reported in the June 1941 BULLETIN, available at 30c.)

There have been some new arrivals in the refrigerator field—of these perhaps the *Admiral* is the best known. The Admiral Corporation took over the refrigerator division of Stewart-Warner, and have placed on the market an entirely new electric refrigerator. *Kelvinator* and *Leonard* refrigerators are now mechanically the same, and tests will be made as soon as a model is available. A *Gibson* has been included in a recent series of tests because no tests of this make were made by CR in the years immediately preceding the war.

Methods of Test

The refrigerators were set up in an insulated room held throughout at constant



Admiral, Model CS-746

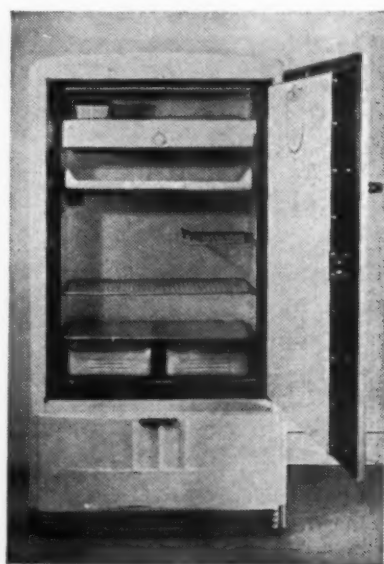
temperatures. Resistance thermometers were placed at three locations in the food compartments of the refrigerators as prescribed in the standard test procedure of the American Standards Association. Circulation of air about the refrigerators was restricted (so that test conditions would be uniform for all) by vertical false partitions placed 2½ inches behind the refrigerators and extending one foot beyond the refrigerators on either side and 18 in. above the top. Similar partitions, on either side of the refrigerators and one foot from it, extended one foot forward from the rear partition. Instruments were provided for determining the electrical input to the refrigerators, the running time of the motors and the number of operations of the thermostats. The thermometers were connected to a multi-point recording instrument where the temperature at

each point was recorded at intervals of ten minutes throughout the test.

After the refrigerators had been allowed to stand in a heated room at 90° for at least 48 hours with their doors open, the time and energy required to lower the temperatures to a stable value with the controls set in the normal position, and the temperature so attained, were determined. These tests were repeated with room temperature maintained at 110.5°F and controls set to give an average temperature inside the

boxes of approximately 50°F. Results of these tests are given in Table I.

After stable temperature conditions were reached, no-load performance data under steady conditions were obtained with several settings of the control dial, the tempera-



Gibson, Model F-666

Table I

Pull Down Test—giving an indication of the refrigerating capacity of the unit.

	Admiral		Gibson	
	90°F	110.5°F	90°F	110.5°F
Room Temperature				
Elapsed Time, Hours	9	7	9	8
Average Temperature Inside Box	35.3°F	49.5°F	45.7°F	49.7°F
Running Time of Motor, %	41.2	51	33.5	62.5
Energy Consumption Kilowatt-Hours	0.62	0.67	0.59	0.97

ture in the test room being maintained, one time at 90°F and another at 110.4°. (Table II.)

By experience it has been learned that the cost of operating a refrigerator loaded with food and used under average conditions in a home will often be close to the operating costs determined under test conditions in a room held accurately and constantly at 80°F. Operating costs at 80°F have been approximately determined by calculation and are given in the listings. In the ice-making tests, the time and energy required to make the regular complement of ice cubes were measured. It is interesting to note that when the controls of the refrigerator were set at "fast freeze" with the room temperature at 90°F, insertion of the ice-cube trays filled with water at the same temperature as the room raised the inside temperature of the *Admiral* 5.5°F and the *Gibson* 8.1°F. At the fast-freeze setting, the temperature in the food compartments of both refrigerators reached a low of 30°F (which would mean that some foods and beverages might freeze).

To permit judgment of electrical safety, standard proof-voltage tests and standard tests for leakage current were made on the refrigerators as received, and again after 16 hours at a temperature of 85°F, relative humidity of 85%, and after operating continuously for one hour with the door open. Both refrigerators passed these tests satisfactorily.

Since the amount one has to pay for the electricity used to operate an electric refrigerator during its life is large, and may be comparable with the price of a new refrigerator, the annual cost of current is an important factor. There was considerable variation between refrigerators in the present test; the cost of electricity for operation of the 6.2 cu. ft. *Gibson* ran to two-thirds more than for the 7.7 cu. ft. *Admiral*. This is a nice illustration of the importance of technical factors and characteristics which do not meet the eye of the prospective buyer of an electrical appliance, for assuming a working life of ten years for the refrigerator, it would cost the user about \$80 more for electrical energy to operate the *Gibson* than the *Admiral* (assuming a kilowatt-hour charge of 4 cents).

A. Recommended

Admiral, Model CS-746A (*Admiral* Corp., 3800 Cortland St., Chicago)

Table II

Summary of test data obtained on refrigerators not loaded (no food taken out or put in) at room temperatures of 90° and 110.4°F under standard conditions.

	Admiral		Gibson	
	7.7 cu. ft., 14.16 sq. ft. shelf area		6.2 cu. ft., 10.77 sq. ft. shelf area	
Room Temperature	90°F	110.4°F	90°F	110.4°F
Average Temperature Inside Box (corrected to standard condition)	43°	46°	43°	46°
Running Time of Motor, %	17.3	42.5	29.7	—
Energy, Kilowatt-Hours per Day	0.80	1.74	1.34	2.57
Maximum Time for Making Ice Cubes With Controls at Coldest Setting, Hours	3.6 (8 lb.)	—	2.6 (6 lb.)	—

47) \$203.95. Rated capacity, 7.6 cu. ft. (actual, 7.7 cu. ft.). Rated shelf area, 15.1 sq. ft. (actual, 14.16 sq. ft.). Sealed compressor. Refrigerant, 1 lb. *Freon 12*. Equipped with 4 full-size shelves, bottom one of glass, others of tinned wire. Two drawers for vegetables and fruits, called "crispers," below glass shelf; drip tray $3\frac{1}{2}$ in. deep, usable for storage of meat; two 2-lb. and one 4-lb. aluminum ice-cube trays. Evaporator located at center of top compartment, had spring-hinged plastic door and provided refrigeration effect at the bottom, the two sides, and under one shelf. Cabinet finished in white lacquer with chromium door handle; food compartment, sheet steel, finished in white vitreous enamel; inner surface of door of plastic material, polished to resemble vitreous enamel. Condenser, finned tube type, mounted diagonally at rear of machine compartment and cooled by convection currents aided by a "chimney" made of fiberboard. Entire refrigerating system made up with soldered joints, which would prohibit the replacement of parts by a serviceman unless the refrigerating unit were taken to the shop for servicing. Time required to lower temperature to a stable value (35°F) with room temperature at 90°F and control set at "N" (midpoint), 9 hours, with energy consumption of 0.62 kilowatt-hour corresponding to

about 2.5c worth of electricity. Cost of operation at 90°F room temperature with average temperature inside box 43°F, 96c per month. This would correspond to approximately 72c with a room temperature of 80°F (see text). Corresponds to the cost of operation for the most efficient refrigerator tested by CR in 1941. With temperature control set at "fast freeze," time required to freeze ice cubes: Tray No. 1 and No. 2 top, each 2 lb., 2.4 hours; Tray No. 3 bottom, 4 lb., 3.6 hours. Cost of electricity consumed during freezing period, 2.5c.

B. Intermediate

Gibson, Model F-666 (*Gibson Refrigerator Co.*, Greenville, Mich.) \$181.25. Rated capacity, 6.73 cu. ft. (actual, 6.2 cu. ft., considerably less than claimed). Rated shelf area, 12 sq. ft. (actual, 10.77 sq. ft.—also short measure). Sealed compressor. Refrigerant, 7 oz. *Freon 12*. Equipped with a half shelf and a full shelf of tinned wire, a bottom shelf of glass which serves as a cover for two vitreous enameled drawers, also a baffle plate located about 7 in. below evaporator, which also serves as a shelf. Evaporator is a flat horizontal plate located about 4 in. below the top of the box and extending the full width and depth of the food compartments and equipped with easily operated lift door. Volume of space above evaporator

0.3 cu. ft.; in addition there was a double-walled baffle plate about 7 in. below evaporator shelf, making an additional volume of 1.2 cu. ft. available for chilling foods below main cabinet temperature, if desired. Cabinet finished in white lacquer; food compartment, sheet steel with hard porcelain finish. Condenser, finned type mounted at rear of space below food compartment, lower front space being used for a vegetable bin. Tubing connections to the evaporator and condenser made with "flare" type fittings, which facilitate the work of the serviceman by permitting easy disconnection for removal in the field. Time required to lower temperature to a stable value (45.7°F) with room temperature at 90°F and control set at 1 (midpoint), 9 hours, with energy consumption of 0.59 kilowatt-hours, corresponding to about 2.4c worth of electricity. Cost of operation at 90°F room temperature with average temperature inside box 43°F, \$1.60 per month. This would correspond to approximately \$1.20 with a room temperature of 80°F (see text), or about 66% higher cost of operation than the *Admiral*. With temperature control set at "fast freeze," time required to freeze 6 lb. of ice cubes: Tray No. 1 left, 2.2 hours; Tray No. 2 middle, 1.9 hours; Tray No. 3 right, 2.6 hours. Cost of electricity consumed during freezing period, 2.2c.

Electric Fans

THE FOLLOWING are tentative listings of electric fans which have been purchased for test in recent weeks, from among the few fans of post-war production available on the market. In order to put the information into usable form for subscribers while there is still need for fans during the remaining hot weather, we are presenting a brief and preliminary summary of the findings.

The six fans studied were tested for power input and air delivery. These figures give the best measure of effective-

ness of a fan in terms of its usefulness in cooling for a given amount of energy consumed as electricity and recorded on the consumer's meter. In addition, measurements of electrical leakage were made with the fans operating and not operating. The leakage currents, except in two cases, were very low, even after the fans had been 24 hours in a humid at-

mosphere at 90% relative humidity, 90°F. The largest electrical leakage currents were shown by the *Polar Cub*, and the *R & M Banner*. The leakage of all the other fans was of a very much smaller order—about one-tenth as much as for the two mentioned, and well below the requirements established for safety in this respect. In a dry atmosphere, all the fans gave very low leakage current which were far below the established figure for a safe upper limit of leakage. All of the fans were given a proof-

voltage test at 900 volts, 60 cycles, a-c, for one minute, under normal conditions and after one hour's operation; none failed under this overvoltage test.

As already noted, the ratings are tentative and based upon preliminary results from the laboratory. However, they correctly reflect the performance of the fans as so far determined by the tests.

A. Recommended

Diehl Junior (Diehl Mfg. Co., Elec. Div. of Singer Mfg. Co., Finderne, N.J.) \$13.55. Four-blade impeller, 10-in. diameter. Had switch, giving one speed. Air delivery, 860 cu. ft. per minute, with power input of 35.5 watts (one of two fans high-

est in the group in efficiency). **2**
Hunter (Hunter Fan and Ventilating Co., Inc., Memphis, Tenn.) \$15.40. Four-blade impeller, 10-in. diameter; both oscillating and non-oscillating operations. Had switch, giving two speeds. Air delivery, 890 cu. ft. per minute, with power input of 39 watts (one of two fans highest in the group in efficiency). **3**

B. Intermediate

Emerson Junior (The Emerson Electric Mfg. Co., St. Louis) \$12.55. Four-blade impeller, 10-in. diameter. Had switch, giving one speed. Air delivery, 580 cu. ft. per minute, with power input of 38 watts (efficiency below average). **2**
General Electric (General Electric Co., Schenectady, N.Y.) \$18.28. Three-blade impeller, 9-in. diameter; both oscillating and non-oscillating operation. Had switch, giving one speed.

Air delivery, 610 cu. ft. per minute, with a power input of 35.5 watts (efficiency about average). **3**

C. Not Recommended

Polar Cub (A. C. Gilbert Co., New Haven, Conn.) \$7.51. Four-blade impeller, 10-in. diameter; both oscillating and non-oscillating operation. Had switch, giving one speed. Air delivery, 550 cu. ft. per minute, with power input of 52 watts (gave much the lowest efficiency in group—only 45% as good as the best fans). **1**
R & M Banner (Robbins & Myers, Inc., Springfield, Ohio) \$13.33. Four-blade impeller, 10-in. diameter; both oscillating and non-oscillating operation. Had switch, giving one speed. Air delivery, 700 cu. ft. per minute, with power input of 44.5 watts (efficiency below average). **2**

More Summer Motor Oils

THE following ratings of motor oils supplement the list which appeared in the August BULLETIN and give the results of the tests made for Consumers' Research on samples of oils purchased in various sections of the country. Ratings are dependent on the following factors: (1) Correct labeling of oil as to SAE viscosity number, (2) viscosity index (most important), (3) carbon residue. As these are summer oils, pour point was disregarded.

In the listings, sections in which samples were purchased are shown in the usual manner: East (E), Southeast (SE), West (W), Pacific Coast (PC). Samples from the Southwest were unobtainable in cans at the time purchases for test were being made, and a subscriber able and willing to help collect samples from the Midwest region was not located

until too late for samples to be included in this test. These regions will be represented in CR's next test of automobile oils.

Brands marked with an asterisk (*) showed a considerable amount of ash, indicating the presence of certain types of additives. Some of the other oils may also contain additives which did not show up in the ashing test. In some instances presence of these was indicated on the label of the can. The *Havoline* can, for instance, stated that its contents had been "Distilled and insulated against heat against cold," while *Gulfpriide* was "Alchlor processed," and *Atlantic A* was described as "a detergent oil with heat stability and rust corrosion prevention characteristics."

Prices are per quart can unless otherwise noted.

SAE 20-20W

A. Recommended

Atlantic A Quality (E)* (SE)* (Atlantic Refining Co.) 25c.
Champlin Hi-V-I (W) (Champlin Refining Co.) 35c.
Cities Service (SE) (W) (Cities Service Oil Co.) 25c.
Cross Country (PC) (Distributed by Sears, Roebuck & Co.) 20c in bulk.
Esso No. 1 (E) (Standard Oil Co.) 35c.
Gulfpriide (SE)* (Gulf Oil Corp.) 35c.
Havoline (E) (W)* (The Texas Co.) 30c.
Hyvis (W) (Hyvis Oils) 35c.
Mobiloil Arctic (E)* 30c, (W)* and (SE)* 35c (Socony Vacuum Oil Co.)
Nth (W) (Continental Oil Co.) 30c.
Opaline (SE) (W)* (Sinclair Refining Co., Inc.) 25c.
Purol (SE) (Pure Oil Co.) 25c.
Quaker State (SE)* (Quaker State Oil Refining Co.) 35c.
Radar (PC) (Golden Eagle Oil Co.) 31c in bulk.
Shell-X-100 (E)* (W)* (Shell Oil Co.) 35c.
Skelly Tagolene Fortified (W)* (Skelly Oil Co.) 30c.
Texaco (W) (The Texas Co.) 25c.

B. Intermediate

Gulfpriide (E)* (Gulf Oil Corp.) 35c. Misabeled as to SAE viscosity number.
Macmillan Ring Free (SE) (W) (Macmillan Petroleum Corp.) 35c.
Pennzoil (SE) (W) (The Pennzoil Co.) 35c. Carbon residue high.
Phillips 66 (W) (Phillips Petroleum Co.) 30c.
Quaker State (W)* (Quaker State Oil Refining Co.) 35c. Carbon residue high.
Sinclair Pennsylvania (SE) (Sinclair Refining Co., Inc.) 35c. Carbon residue high.
Veedol (E) 30c, (W) 35c (Tide Water Assoc. Oil Co.) Carbon residue high.
Wards Vitalized (PC)* (Montgomery Ward & Co.) 19c in bulk.
Wolf's Head (SE) (Wolf's Head Oil Refining Co.) 35c. Carbon residue high.
Zerolene (PC) (Standard of California) 16c per qt. in bulk.

C. Not Recommended

Cycol (Associated Oil Co.) 16c per qt. in bulk. Low viscosity index.
Golden Shell (PC)* (Shell Oil Co.) 26c per qt. in bulk. Misabeled as to SAE viscosity number.
Macmillan Ring Free (PC) (Macmillan Petroleum Corp.) 36c per qt. in bulk. Misabeled as to SAE viscosity number.
Sunoco (E) (SE) (The Sun Oil Co.) 25c. Very low viscosity index.

SAE 30

A. Recommended

All State Cross Country (E) (Distributed by Sears, Roebuck & Co.) 10-qt. can, \$1.87.
Atlantic Q Quality (E)* (SE)* (Atlantic Refining Co.) 25c.
Bureau Premium (E) (Distributed by G.L.F. Coop.) 5 gal., \$4.35.
Champlin III-V-I (W) (Champlin Refining Co.) 35c.
Cities Service (Cities Service Oil Co.) 25c.
Esso No. 3 (E) (Standard Oil Co.) 35c.
Gulfpriide (E)* (SE)* (Gulf Oil Corp.) 35c.
Havoline (E) (W)* (The Texas Co.) 30c.
Hyvis (W)* (Hyvis Oils) 35c.
Mobiloil A (E)* 30c, (SE)* 35c (Socony Vacuum Oil Co.)
Nth (W) (Continental Oil Co.) 30c.
Opaline (SE) (W)* (Sinclair Refining Co., Inc.) 25c.
Quaker State (SE)* (W)* (Quaker State Oil Refining Co.) 35c.
Radar (PC) (Golden Eagle Oil Co.) 31c per qt. in bulk.
Sinclair Pennsylvania (SE) (Sinclair Refining Co., Inc.) 35c.
Skelly Tagolene Fortified (W)* (Skelly Oil Co.) 30c.
Texaco (W) (The Texas Co.) 25c.
Wards Supreme Quality (E) (Distributed by Montgomery Ward & Co.) 5 gal., \$4.25.

B. Intermediate

Cross Country (PC) (Distributed by Sears, Roebuck & Co.) 20c per qt.

in bulk. Misabeled as to SAE viscosity number.

Golden Shell (PC)* (Shell Oil Co.) 26c per qt. in bulk.
Macmillan Ring Free (SE) (W) (PC, in bulk) (Macmillan Petroleum Corp.) 35c.
Mobiloil VDA (W)* (Socony Vacuum Oil Co.) 35c. Misabeled as to SAE viscosity.
Pennzoil (SE) (W) (The Pennzoil Co.) 35c. Carbon residue high.
Phillips 66 (W) (Phillips Petroleum Co.) 30c.
Shell-X-100 (W)* (Shell Oil Co.) 35c. Misabeled as to SAE viscosity.
Texaco (PC)* (The Texas Co.) 25c per qt. in bulk.
Veedol (E) 30c, (W) 35c (Tide Water Assoc. Oil Co.) Carbon residue high.
Wards Commander (E) (Distributed by Montgomery Ward & Co.) Three 2-gal. cans, \$2.88.
Wards Vitalized (PC)* (Distributed by Montgomery Ward & Co.) 19c per qt. in bulk.
Wolf's Head (SE)* (Wolf's Head Oil Refining Co.) 35c. Carbon residue high.
Zerolene (PC) (Standard of California) 16c per qt. in bulk.

C. Not Recommended

Cycol (PC) (Associated Oil Co.) 16c per qt. in bulk. Low viscosity index.
Gold Crest (E) (Distributed by Sears Roebuck & Co.) 10-qt. can, \$1.03. Very low viscosity index.
Sunoco (E) (SE) (The Sun Oil Co.) 25c. Very low viscosity index.

Important Correction to Report in July 1946 Bulletin re Kenmore and Whirlpool Washing Machines

IN an effort to get reports to subscribers at the earliest possible date on certain new appliances, CR has had to refer some of the most urgent appliance tests to outside laboratories. An unfortunate error was made by the laboratory in its tentative and preliminary report of findings on two of the washing machines reported in the July BULLETIN, pages 13 and 14, concerning the *Sears Kenmore*, No. 53230, and the

Nineteen Hundred Corp.'s *Whirlpool*, Model 51230.

The directions indicating the amount of water to be used for washing were not followed by the technician conducting the test on these two washers, and as a result, the tubs were underfilled. Both washers when retested with the correct water level gave better performance than in the washing tests previously made. Actually, when

the test was rerun with the correct amount of water, the *Sears Kenmore's* washing performance was good, and fairly close to that of the *Maytag* (May 1946 BULLETIN). The washer is thus re-rated B.¹

The *Whirlpool* washer, when

¹ In the pre-war years, CR did not rate washing machines with power wringers higher than C. Not Recommended, irrespective of their qualities in other respects. In view of the present critical shortage of home washing machines of all types, and the fact that wringer-type machines will probably be the only ones available in appreciable quantity for some time, the better and safer machines of this type will be rated B. Intermediate, for the present.

retested, gave a washing performance about equal to that of the *Maytag* (which was the machine that had hitherto given the highest washing effectiveness of any washing machine tested in the 1946 series). However, this washing machine, for reasons indicated in footnote 1 on page 20, does not receive a higher rating than the B rating previously given it.

The repeat tests on washing effectiveness of the *Montgomery Ward's No. 846* gave the same results as previously. However, for convenience of readers, the listing of the *Montgomery Ward* is repeated be-

low, with those of *Sears Kenmore* and *Whirlpool*.

B. Intermediate

Montgomery Ward's No. 846. \$63.95, plus freight. Performance on washing test a little better than *Bendix*, decidedly less good than *Maytag*. Efficiency of wringing action good. The water left in the clothes was about 95% of the weight of the dry clothes. 1

Sears Kenmore, Model 51230 (Sears, Roebuck & Co.) \$67.75, plus freight. Similar to but not identical with *Whirlpool*. Performance on washing test good; fairly close to that of the *Maytag*, Model E2-LP, the best washer in this respect hitherto tested. Efficiency of wringing action good; the water left in the clothes was about 100% of the

weight of the dry clothes. 1

Whirlpool, Model 51230 (Nineteen Hundred Corp., St. Joseph, Mich.) \$85.75, Zone 2. Performance on washing test about equal to that of the *Maytag*. Efficiency of wringing action very good; the water left in the clothes was about 90% of the weight of the dry clothes. 2

* * *

The statement that effectiveness of washing was "slightly superior to *Sears Kenmore*" should be deleted from the listing of the *Electro-Mite*, Model D60cy, "portable" washer in the August 1946 BULLETIN, page 15, col. 3, as that statement is now known to be incorrect.

"Doped" or "Premium" Motor Oil

THE cry "something new has been added" only too frequently is used to lift merchandise out of its common surroundings or breathe new life into a sagging sales campaign. Just as often a small improvement, comparable, perhaps, to a mole hill when closely scrutinized, may be puffed up through clever advertising to the impressiveness of a mountain. Recent advertising practice has been much given to the generous use of technical data and chemical terms to awe the public. It is a sound rule for the general reader who does not have technical knowledge or training that when such data, and tests allegedly carried out, are not fully and completely explained, one is wise always to take them with the proverbial grain of salt.

Many have recently seen huge posters spring up on billboards praising the "New Triton," the oil you change only

twice a year." A small leaflet followed this advertising splurge describing in more detail the various new ingredients of the oil that makes it "superior."

The lubricating oils on the market vary considerably. They vary in sludging tendencies, with the paraffin type of oil the most stable, and the naphthene or western oil the most unstable. Methods of refining the various oils also influence this property greatly. Oils also vary in their behavior with temperature changes, the oils of highest viscosity index (least change in viscosity with temperature) being the more desirable. There is also some variation in oils in respect to "film strength." This property is not very important in passenger cars since even the humblest of lubricating oils possesses a film strength or lubricating cushion far higher than is required by the 2000 lb.

per square inch bearing pressure that appears as a practical maximum in such cars. Other characteristics that may vary with origin of the stock and methods of refining are carbon residue, color, gravity, flash and fire points, etc.

The development of hundreds of various chemicals, which, if added to oils in amounts of 0.1% to several percent, would add a number of "virtues" to the oil, started some 10 years ago when Diesel engines were giving their owners no end of trouble. Rings would stick regularly and the hot blow-by gases, carrying fuel soot, and unburned fuel, caused rapid deterioration of the oil in the crankcase. Under pressure and with the cooperation of the Diesel manufacturers, some compounds were found that could be added to the oils to lessen or eliminate the trouble. While a number of problems were solved by

such doped oils in heavy-duty equipment, new problems developed because of them. (It is a common occurrence that improvement brings new problems in its train. This was true of the superheterodyne circuit in radio, for example, which afforded great advantages in manufacture but had vitally important disadvantages for the consumer; it was true also of the fluid transmissions and vacuum-assisted gearshifts in automobiles.)

The group of additives includes pour point depressants, compounds which added to oils in small concentrations will lower the temperature at which the oils solidify. Other additives will improve the viscosity index of oils. Another family of additives will improve resistance to oxidation with some members of the family acting also as corrosion inhibitors. Still other compounds have the effect of increasing the oiliness or film strength of the oil. More recent members of the additive group are the detergents, usually certain soaps or esters, which have the ability of holding a number of impurities in suspension, so that they do not settle out as sludge until the detergent is used up or its saturation point has been reached.

Additives of the above group have been used to good advantage for a number of years in heavy-duty equipment, such as trucks and tractors, especially Diesel units. These additives have created new problems, such as greater sensitivity of oils to moisture, at times increased bearing corrosion and greater oil consumption. Some of the additives, which break down in service, may occasionally form solid substances of an abrasive nature.

Editor's Note:

AS CR pointed out in the August issue, many oils are presently being "doped" with various additives designed to lower the pour point, inhibit oxidation, improve viscosity index, increase "oiliness," or produce a detergent or cleansing action in the engine. Such doped oils (extensively used during the war in military engines) are commonly called "heavy-duty" oils when designed for heavy-duty industrial equipment, and "premium" oils when to be used in motor cars.

Much subscriber interest has been aroused by the claims made for such products. CR, therefore, presents herewith an analysis of the claims made for one of these oils, *Triton* (Union Oil Co.). This study will, we believe, help subscribers reach conclusions as to the value to drivers of ordinary passenger cars not only of *Triton*, but of other new and special brands of oil of similar character. The additives used in some of these oils, formulated originally to meet the special needs of military vehicles used, of course, in abnormal and severe service, have their applications, but are not of present importance to the average driver of a passenger car in normal service.

These solids are usually retained by the oil filter if one is used. In spite, however, of these occasional troubles caused by the additives, and the higher price of doped oils, the advantages of such an oil in heavy-duty operation and equipment far outweigh its disadvantages.

But now comes the "\$64 question": If the use of doped oils is necessary in heavy-duty equipment, is it justified and beneficial in ordinary motor oils? After all, heavy-duty operation differs greatly from use of a passenger car by the average motorist. While trucks or tractors labor at or near full load or even at overloads for hours or days at a time, the life of a passenger car is spent to a considerable extent in stopping, starting, idling and short runs, or runs at low speed and light load. As a rule, and this is a very important statement for the consumer to remember: *Passenger car lubrication is not at all a difficult problem, and many, perhaps most, motor oils are of good enough quality and will give satisfaction for the vast majority of motor car users.* Thus it is entirely out of order that this vast majority who can get along on a standard grade and standard price oil, should be urged to buy a special premium oil that will be of little use to any but the few drivers who abuse their cars or must drive them regularly or often under extraordinary conditions.

This brings us to Union Oil Company's leaflet displaying the virtues of the "*New Triton*" motor oil. A diagnosis of their claims may be helpful.

"*The Motor Oil you change only 2 times a year.*" This idea is in no sense a new one, but it is new for it to be expressed by an oil company, for in past years, oil companies have taken great pains to encourage frequent oil changes. For years, advertising and service-station salesmanship have told us to change oil every 1000 miles; some have urged an oil change even at every 500 miles, and for

years many motorists have dumped good oil. Now we are to change oil twice a year or every 4000 to 5000 miles. During that time we will add about 8 quarts of new make-up oil, which will go a long way toward keeping the oil in fair condition. Many people have followed this procedure even with good non-doped lubricants with no ill effects. There are possible, although not usually important, hazards in this practice because of the possibility of dilution of the lubricant with unburned fuel or the collection of moisture from condensation, but neither of these difficulties is taken care of by the use of a doped oil.

"*New Triton* lasts far longer than any oil you've ever known before because it contains special war-developed, war-proven compounds. . . ." If these "miracle" compounds are war-developed and war-proven, they certainly would be available to other refiners, and there is no reason to believe that *Triton's* oil or any other company's oil will have a monopoly on any desirable doping processes or ingredients.

"*New Triton* superiority shown by these results.

"1. *Corrosion test.*" Corrosion curves are shown comparing "*New Triton*" with a "straight mineral oil." According to these curves the straight mineral oil shows a bearing loss 14 times as high as that of "*New Triton*." What oil is this "straight mineral oil"? Is it perchance the old *Triton*? (In order to show improvement due to additives, the usual technical approach is to show corrosion curves of the same oil with and without the additives.) If this "straight mineral oil" showing such high corrosion rate is the old-style

Triton, we are tempted to ask the question whether motor cars that used it have any bearings left in. The answer to this apparent puzzle appears on the left side of the chart where it is noted that the test used is a "heavy duty oil corrosion test." The implication is that if this oil is good for heavy-duty equipment it should be wonderful for your car, which, to say the least, is a case of the advertising department's taking unwarranted liberties with technical data.

"2. *Load-carrying ability.* *New Triton* has 40% greater load carrying ability than straight mineral oils." So what! What will you do with the extra load-carrying ability when you get it? It is generally considered that in popular cars, load-carrying ability is no problem since straight mineral oils even of questionable quality have a surplus of this quality. Here again we notice that passenger cars are gently pushed into the heavy-duty truck and tractor class.

Now suppose you drive six months with the *New Triton* without draining and then have an engine failure. Like most motorists you will blame the oil. If you seek redress, you may be asked the question of how many miles and how fast you have driven. It may be pointed out to you that the leaflet states: ". . . under normal driving conditions you need only 2 oil changes a year." What is the criterion of normality? One might argue that normal driving conditions means a motor in good condition, no speed above 40 miles an hour, mileage not over 10,000 miles per year, no driving conditions calling for an excess of "stop-and-go" operation that tends to build up dilution,

etc. At one time the prospective purchaser is told that this oil is built for heavy-duty conditions, and at the next moment, he is warned—if he is a close reader—that the oil can be used as recommended only "under normal driving conditions." However, even if you are not classed as a normal driver, an investigation will show in practically every case, that engine failures in motor cars are rarely caused by use of a lubricating oil of an inferior quality, but rather by lack of sufficient oil. Lack of oil, lack of cooling water, gasoline of a "gummy" character, leaky head gaskets, warped pistons, or other mechanical defects (rather than the wrong brand of oil) are the causes primarily responsible for serious engine troubles. This would mean then that, as a rule, *Triton* with or without the additive could be used for 3000 to 4000 miles between drains if the motor is in good condition and none of the above suggested abnormalities exist. This also means that additive or no additive, bearing failure may result even after 500 miles if enough sand enters the crankcase or if enough gasoline washes down into the crankcase due to some unusual circumstance or combination of circumstances such as poor combustion, poor gasoline, or excessive use of the choke. And of course the additive won't save the car when a cracked block or leaky gasket allows water and rust to join the crankcase oil.

What is it then, you may ask, that this *New Triton* offers? It is claimed to contain a detergent which ". . . slowly cleans a dirty engine. . . ." One should add that if it cleans an engine, oil consumption is

likely to be increased considerably. Also, it would be fair to say that dirty motor car engines that will benefit from such a cleaning are in the minority.

The *Triton* oil is also claimed to contain an antioxidant which reduces corrosion and the claim states: "*Ordinary oils, after 1000 miles or so of driving, may develop harmful acidity and corrode certain types of bearings.*" Since admittedly such acids *may* develop, one could assume, as is borne out by actual tests, that they do not do so as a rule, but only under abnormal conditions. Experience also bears out the contention that bearing corrosion failures in motor cars are a rarity and are as likely to happen with improperly tested "doped oils" as with straight mineral oils.

Triton oil is also claimed to contain a compound to increase the film strength of the oil. This has been shown before to

have little bearing on average motor oil performance. To sum up, it may be said that heavy-duty equipment does greatly benefit by the use of doped oils. Such oils are even considered necessary in many types of engines. On the other hand, in the present-day motor cars and with normal driving conditions, doped oils are *not* necessary and may even be of questionable value. Antioxidants to prolong the life of the oil may have some merit, and so-called premium motor oils containing additives may be worth the money to the driver who uses his car consistently hard. In his special case, however, he should not blindly change his oil twice a year, but watch it as he has heretofore, and if he suspects high dilution or dirt, sand or water, or a mechanical defect that causes the oil to deteriorate too fast, make more frequent oil changes, as the conditions observed may actually require.

The average motorist will scarcely be able to tell any difference in maintenance or car operating cost whether he uses a doped oil or a good grade of straight motor oil. Too many variables enter into the cost picture, and probably the greatest of these variables is the owner himself. It is a well-known fact that one man will run his car for 80,000 miles or more without any trouble while his neighbor begins to spend significant sums for maintenance at half that mileage or less.

What future car design will bring is hard to predict, but it may well be the case that, in the future, engines will be so changed in design as to require the qualities of a doped oil. Until some possible future day when doped oils are a necessity for the typical car, it will be well to view the claims for miracle oils with reserve, and to mistake no mole hills for mountains.

Off the Editor's Chest

(Continued from page 2)

first handled the case resigned in the interval before the transaction was completed.)

In another case, a consumer was given for Christmas a subscription to a well-known weekly picture magazine to which he already subscribed. For four months he tried in vain by correspondence to have the gift applied as an extension of his current subscription. Finally, he refused to accept the second copy from the post office. When this last step resulted in some action being taken in the magazine's subscription department which cut off his supply of the journal

completely, he wrote a long letter outlining the problem to the editor-in-chief, himself. Within a week he obtained immediate action from the circulation director who took personal charge of the very simple problem and straightened the whole thing out.

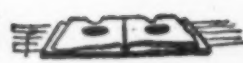
One difficulty experienced at this time by many people who attempt to correspond with manufacturers about their products or even to request catalogs, literature, prices, etc., has been failure of the firm addressed to make any reply to letters, or perhaps they sent a form reply which did not bear on the question asked. Some

of this seeming indifference may be due to shortages of clerical help, which are certainly not the manufacturer's fault in most cases; others are due to inexperienced executives and clerks who are not particular about their responsibility to customers and prospective customers. If your first letter does not receive reasonably prompt answer, write again by registered mail, "return receipt requested." In that way, you can at least be sure in future discussions of the matter that your letter was correctly addressed and was delivered. It

(Continued on page 31)



PHONOGRAPH RECORDS



By Walter F. Grueninger

Please Note: Prices quoted do not include taxes. In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended.

ORCHESTRA

Barroso: Brazil & Provost: Intermezzo. Boston Pops Orchestra under Fiedler. 2 sides, Victor 10-1219. 75c. To realize fully the lack of dynamic direction in *Brazil*, compare it with Morton Gould's performance in Columbia Set 593. Overside fares better, though I prefer this popular motion picture music arranged for solo violin. Recording clear but in *Brazil* I look for more percussion.

Interpretation B
Fidelity of Recording A

Copland: A Lincoln Portrait. Philharmonic-Symphony Orchestra of New York under Rodzinski with Kenneth Spencer (narrator). 4 sides, Columbia Set X 266. \$2.85. The work, played by several major orchestras during the past four seasons, combines music you have heard, Lincoln comments you have heard, and some new music. Performance and recording admirable.

Interpretation AA
Fidelity of Recording AA

Music of Fritz Kreisler. Andre Kostelanetz and His Orchestra. 6 sides, Columbia Set 614. \$4.05. Melodic music loved by nearly all who hear it. Played with good taste and recorded skillfully. Included are "Caprice Viennois," "Tambourin Chinois," "The Old Refrain," "Stars in My Eyes," "Liebesleid," "Liebesfreud."

Interpretation AA
Fidelity of Recording AA

Mozart: Die Entführung aus dem Serail—Overture. London Philharmonic Orchestra under Beecham. 2 sides, Victor 11-9191. \$1. Animated overture. Illuminating interpretation; recording made in England reveals greater dynamic contrast than usual in English or American recordings.

Interpretation AA
Fidelity of Recording AA

Offenbach: Tales of Hoffman—Barcarolle & Romberg: Faithfully Yours. Sigmund Romberg and His Orchestra. 2 sides, Victor 11-9222. \$1. Light numbers played by an orchestra of less than symphonic proportions with good taste, recorded with appropriate balance.

Interpretation AA
Fidelity of Recording AA

Respighi: The Pines of Rome. The Philadelphia Orchestra under Ormandy. 6 sides, Columbia Set 616. \$3.85. The composer describes, in four sections, the old trees which dominate the Roman landscape. . . . the pines of the Villa Borghese, pines near a catacomb, pines of the Janiculum, pines of the Appian Way. The performance lacks the blazing fire and incisiveness the work requires. The recording, though apparently wide-ranged, seems muffled at times and over-monitored. Yet, it is as well performed and better recorded than the competitive Paris Conservatory discs, Victor 11917/8.

Interpretation A
Fidelity of Recording AA

Strauss: Village Swallows Waltzes. Boston Pops Orchestra under Fiedler. 2 sides, Victor 11-9189. \$1. Undistinguished waltzes complete with warbling bird whistle. Routine performance, good recording.

Interpretation A
Fidelity of Recording AA

Thompson: The Testament of Freedom. Harvard Glee Club, G. Wallace Woodworth, Choral Director, and the Boston Symphony Orchestra under Koussevitzky. 6 sides, Victor Set 1054. \$3.85. Randall Thompson has set four passages from Jefferson's writings to this choral-orchestral music which is conservative, direct, dramatic, uninspired. The performance of the orchestra surpasses that of the chorus. Words are unintelligible but they appear on the inside cover of the album. The orchestra at times is nearly obliterated by the chorus. Side 2 of my set wavers in pitch near the label.

Interpretation A
Fidelity of Recording A

Tchaikovsky: Humoresque & Solitude. Hollywood Bowl Symphony Orchestra under Stokowski. 2 sides, Victor 11-9187. \$1. Symphonic transcriptions by Stokowski which do not appeal to me. Stokowski's performance of *Solitude*, with the All American Orchestra, was poorly recorded by Columbia. The recording of *Solitude* on this disc—little better—is overmonitored and lacks depth found in better recordings. Short measure on both sides.

Interpretation A
Fidelity of Recording B

Wagner: Siegfried Idyll. Philharmonic-Symphony Orchestra of New York under Rodzinski. 4 sides, Columbia Set X 265. \$2.85. This tender work, constructed principally from themes appearing in the third act of *Siegfried*, was first performed as a gift on Christmas morning outside Cosima's bedroom. If the present performance lacks a little of the warmth of the Vienna Philharmonic-under-Bruno-Walter performance in Victor Set G 12, not in the current catalogue, that is not to say it is a bad performance. The recording is excellent, slightly better than Bruno Walter's and surfaces are more quiet excepting Side 2, which swishes.

Interpretation A
Fidelity of Recording AA

INSTRUMENTAL AND CHAMBER

Boccherini: Sonata No. 2. Piatigorsky (cello), Pavlovsky (piano). 2 sides, Columbia 71785. \$1.05. Seldom played work performed within the scope of the composer's intentions. Correct balance between instruments but the cello tone has been recorded more vibrantly elsewhere.

Interpretation A
Fidelity of Recording B

Brahms: Hungarian Dances. Erica Morini (violin). 6 sides, Victor Set 1053. \$3. Brilliant, famous dances performed with dexterity and charm by the world's foremost woman violinist. Included are Dances No. 1, 5, 6, 7, 8, 17. The ensemble would have benefited had the microphone been a foot closer to the piano but it is a small point for the recording, aside from this, is excellent.

Interpretation AA
Fidelity of Recording AA

Elgar: Salut D'Amour & Debussy: La Fille Aux Cheveux de Lin. Menuhin (violin). 2 sides, Victor 10-1220. 75c. Encore numbers played less serenely than customary. Good balance.

Interpretation A
Fidelity of Recording AA

Grieg: Berceuse & Album Leaf. Harold Bauer (piano). 2 sides, Victor 10-1217. 75c. Slight numbers played with mannerisms. Tubby recording.

Interpretation B
Fidelity of Recording B

Novacek: Perpetuum Mobile & Villa Lobos: O Canto do Cysno Negro. Ricardo Odnoposoff (violin). 2 sides, Victor 10-1228. 75c. One of the rising young violinists plays two encore numbers. The first exhibits his technique, the second, for which I care little, his tone. Balance and recording, excellent.

Interpretation AA
Fidelity of Recording AA

Prokofieff: Overture on Hebrew Themes (Op. 34, Sextette). Nowinski, Ockner, Milofsky, Forst, Weber, Rivkin. 2 sides, Disc 4020. \$2. A modest work, likely to mean most to those who recognize the themes. The balance is poor, bringing the clarinet and violin far too forward. Pressed on "vinylite" which, in this case, wore down a steel needle about as quickly as a shellac record and offered no less surface noise.

Interpretation A
Fidelity of Recording B

VOCAL

Schubert: Ave Maria & Ständchen. Nelson Eddy (baritone). 2 sides, Columbia 71786. \$1.05. Probably Schubert's most

familiar songs, presented in English. Mr. Eddy gives a somewhat deadpan performance but he must have been hampered by the horribly jerky orchestral accompaniment. The balance is good. Better performances of both numbers are already catalogued.

Interpretation B
Fidelity of Recording AA

Schubert: *Songs from Die Schöne Müllerin.* Lotte Lehmann (soprano). 14 sides, Columbia Set 615. \$8.25. The most popular song cycle and certainly a great work of twenty songs. Nineteen are recorded here, the familiar "Unge duld" omitted, according to the album notes, because "previous recording commitments have prevented Mme. Lehmann from including this song." Mme. Lehmann sings it on Victor disc 1731 of Set 292. A few minor vocal shortcomings which go almost unnoticed in the concert hall are evident here but on the whole the interpretation is on a very high plane, indeed. Recording of the voice is first rate but the piano is a foot or two too far from the microphone. All sides are not recorded at the same volume level nor with equal clarity. Superior to Columbia Set 317 in which Ernst Wolff sings and accompanies himself at the piano.

Interpretation AA
Fidelity of Recording A

LIGHT AND MISCELLANEOUS

Fleeson-von Tilzer: *I'll Be with You in Apple Blossom Time* & **Heyman-Rozsa:** *Strange Love.* Elliot Lawrence and His Orchestra. 2 sides, Columbia 36999, 50c. An old favorite and a new one, both slow numbers performed in strict fox-trot time. Vocal soloist Jack Hunter drags, as do most crooners, but he is more acceptable than many of his colleagues. Good depth to the recording, though there is an unnatural razor-edge quality about the singing.

Interpretation A
Fidelity of Recording A

Herbert: *Thine Alone* & **Youmans:** *Through the Years.* Igor Gorin (baritone). 2 sides, Victor 10-1201. 75c. Sung in a rich, full voice touched with foreign accent.

Interpretation A
Fidelity of Recording AA

Kern: *All the Things You Are* & **Youmans:** *Carioca.* Johnnie Guarneri (piano) with guitar and percussion. 2 sides, Majestic 1054. 75c. *All the Things* opens in the style of an early classical composer, goes on to fox-trot tempo, then returns to more classic hokum. Overside stays to strict tempo and is good of its kind. Audible surfaces.

Interpretation A
Fidelity of Recording A

Kern: *Can't Help Lovin' dat Man* & **Bill.** Thelma Carpenter (vocalist). 2 sides, Majestic 1028. 75c. Less interesting performances of this "Show Boat" music I have not heard.

Interpretation C
Fidelity of Recording B

Music of Jerome Kern. Andre Kostelanetz and His Orchestra. 8 sides, Columbia Set 622. \$4.85. Delightful music familiar to most listeners arranged as a medley of twenty numbers. Included are "Smoke Gets in Your Eyes," "The Song is You," "Look for the Silver Lining," "Who," "Only Make Believe," "Why Do I Love You," "Ol' Man River," etc. Arranged with fewer frills than usual for Kostelanetz, played expertly, recorded with luster.

Interpretation AA
Fidelity of Recording AA

Meyer-Jones: *I Dream of Brownie with the Light Blue Jeans* & **Katz-Jones:** *Jones Polka.* Spike Jones and His City Slickers. 2 sides, Victor 20-1894. 50c. The takeoff on Jeannie is fun, but don't expect laughs from the other side.

Interpretation AA
Fidelity of Recording AA

Porter: *What is this Thing Called Love* & *I've Got you Under My Skin.* Betty Rhodes (vocalist). 2 sides, Victor 20-1942. 50c. An outstanding disc of its kind for the colorful performance of Miss Rhodes, the skillful orchestral accompaniment, the full bodied recording.

Interpretation AA
Fidelity of Recording AA

A Cole Porter Review. David Rose and His Orchestra. 8 sides, Victor Set P 158. \$2.75. The set, dedicated to the 20th anniversary of sound motion pictures, is produced in con-

junction with the film, "Night and Day," which presents these songs and some scenes from the life of the composer. I am still an admirer of Cole Porter despite the monotonous, lackadaisical performances, the dull arrangements and indifferent recording heard here. All instrumental. The catalogues already contain more desirable recordings of nearly all sides. Included are "Night and Day," "In the Still of the Night," "Love for Sale," "I've Got You under My Skin," "Begin the Beguine," etc.

Interpretation B
Fidelity of Recording B

Rodgers: *Carousel-Soliloquy.* James Melton (tenor). 2 sides, Victor 11-9116. \$1. An expectant father lets his imagination roam over the future of his son. . . but what if it's a girl? The number sounded dull to me in the Broadway production, dull at a Carnegie Pop Concert, and dull on this record. Melton's diction and dramatic style, however, are commendable.

Interpretation A
Fidelity of Recording AA

Romberg: *Who Are We to Say & When I Grow too Old to Dream.* Allan Jones (tenor). 2 sides, Victor 10-1126. 75c. Pleasant singing of a tiresome song and a familiar one.

Interpretation A
Fidelity of Recording A

Gems from Sigmund Romberg Shows (Vol. 1). Genevieve Rowe (soprano), Lillian Cornell (mezzo), Eric Mattson (tenor), Lawrence Brooks (baritone). Sigmund Romberg and His Orchestra. 8 sides, Victor Set 1051. \$3.75. Solos and duets—"One Kiss," "Softly as in a Morning Sunrise," "One Alone," "Romance" from "The Desert Song," "Deep in My Heart," "Drinking Song" from "The Student Prince," "Will You Remember," "When I Grow Too Old to Dream." The soloists carry on pleasantly but not distinctively. On the whole, light-voiced Genevieve Rowe stands out though baritone Brooks runs a close second. Chorus supplements their work and the guiding hand of the composer assures an authentic performance, if not a memorable one. Depth to the orchestra and good balance with the voice characterize the recording.

Interpretation B
Fidelity of Recording AA

Youmans: *Tea for Two* and *Hallelujah.* Russ Case and His Orchestra. 2 sides, Victor 20-0408. \$1. *Tea for Two* would satisfy me if the vocal group which does one chorus were less blatant. The novel instrumental arrangement overside held my interest for two hearings. Strict tempo.

Interpretation A
Fidelity of Recording A

International Night. Henri Rene and His Musette Orchestra. 6 sides, Victor Set S 44. \$3. Henri Rene, a popular orchestra leader in Europe prior to the war, has arranged melodies from the classics for his instrumental group (featuring accordion) into a "Marche Turque," "Danse Hongroise," "Polka Bohemien," "Mazurka Polonaise," etc. The result reminds one of the music heard in the better cafes of Paris, Budapest, Madrid. The melodies arranged—Liszt's "Hungarian Rhapsody No. 2," Mozart's "Turkish Rondo," Tchaikovsky's "Capriccio Italienne," Dvorak's "Slavonic Dance No. 10," Smetana's "Dance of the Comedians," Chopin's "Mazurka Op. 33, No. 2." Performance and recording topnotch.

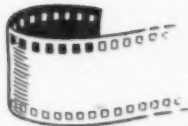
Interpretation AA
Fidelity of Recording AA

Love Songs. Richard Dyer-Bennet (tenor-guitarist). 6 sides' Disc Set 609. \$3. At least one of these songs goes back to the 16th century. All are likely to be sung for years to come so long as we have experts like the 20th century minstrel, Dyer-Bennet, on hand to call them to our attention once in a while. Included are "Two Maids Went Milking," "Westryn Wind," "Brigg Fair," "Going to Ballynure," "Venezuela," "Blow the Candles Out." The recording is about the best this singer has had. Surface noise, though evident, is not excessive.

Interpretation AA
Fidelity of Recording AA

Square Dances: New England. Ralph Page (caller) and His New England Orchestra. 6 sides, Disc Set 630. \$3.15. Six square dances featuring Ralph Page, "the singing caller." Recording, acceptable. The accompanying 16 page booklet gives the calls.

Interpretation A
Fidelity of Recording B



Ratings of Motion Pictures



THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Chicago Daily Tribune, The Christian Century, Cue, Daily News (N.Y.), The Exhibitor, Harrison's Reports, Mademoiselle, Motion Picture Herald, National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time, Variety (weekly), and Unbiased Opinions of Current Motion Pictures which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

ad—adventure	hist—founded on historical incident
biog—biography	mel—melodrama
c—in color (Technicolor, Cinecolor, or Magnacolor)	mus—musical
car—cartoon	mys—mystery
com—comedy	nov—dramatization of a novel
cri—crime and capture of criminals	rom—romance
doc—documentary	soc—social-problem drama
dr—drama	trav—travelogue
fan—fantasy	war—dealing with the lives of people in wartime
	wes—western

A	B	C		
—	9	2	Abilene Town	mus-wes AY
1	9	8	Adventure	mel A
—	1	2	Alias Billy the Kid	wes AYC
—	1	4	Ambush Trail	wes AYC
8	5	—	Anna and the King of Siam	dr A
—	4	4	Avalanche	cri-mel AYC
1	10	2	Bad Bascom	mel AYC
1	7	3	Badman's Territory	wes AYC
—	4	4	Bamboo Blonde, The	mus-war-rom A
—	11	4	Bandit of Sherwood Forest	hist-dr-c YC
—	4	5	Bedlam	dr A
—	3	3	Behind the Mask	cri-mel A
—	2	2	Beware	mus-com A
—	3	1	Black Beauty	dr YC
—	4	6	Blonde Alibi	cri-com A
—	3	3	Blondie's Lucky Day	com AYC
1	11	2	Blue Dahlia, The	cri-mel A
—	2	1	Blue Sierra	dr-c AYC
—	2	2	Border Bandits	wes AYC
—	2	1	Bowery Bombshell	mel AYC
1	5	2	Boys' Ranch	dr AYC
—	10	6	Breakfast in Hollywood	mus-com A
—	5	9	Bride Wore Boots, The	com A
—	3	—	California Gold Rush	wes AYC
1	4	2	Canyon Passage	wes-c A
—	1	4	Caravan Trail, The	mus-wes-c AYC
—	5	5	Cat Creeps, The	cri-mel A
—	1	7	Catman of Paris, The	cri-mel A
1	8	4	Centennial Summer	mus-com-c A
—	2	9	Cinderella Jones	mus-com A
1	2	—	Claudia and David	com AYC
—	1	7	Close Call for Boston Blackie	cri-mys A

A	B	C		
3	10	2	Cluny Brown.....	com A
—	4	—	Cockeyed Miracle, The.....	fan A
—	3	3	Colorado Serenade.....	mus-wes-c AYC
2	6	1	Courage of Lassie.....	dr-c AYC
—	6	3	Crack-Up.....	cri-mel A
—	—	3	Crazy Knights.....	cri-mel AYC
—	1	2	Crime of the Century.....	cri-mel A
—	—	3	Cuban Pete.....	mus-com AYC
—	3	4	Danger Woman.....	mel A
—	2	4	Dangerous Business.....	cri-mel AYC
—	3	2	Dark Alibi.....	mys-mel AYC
1	10	4	Dark Corner, The.....	cri-mel A
—	2	3	Dark Horse, The.....	com AYC
—	3	5	Dark Is the Night.....	war-dr A
—	8	1	Days and Nights.....	war-nov A
—	10	2	Dead of Night.....	mys-mel A
—	1	6	Deadline for Murder.....	cri-mel A
—	1	2	Desert Horseman, The.....	mus-wes AYC
—	3	3	Devil Bat's Daughter.....	mys-mel A
—	2	4	Devil's Mask, The.....	mys-mel AY
—	9	5	Devotion.....	biog-dr AYC
—	7	11	Diary of a Chambermaid.....	dr A
—	5	3	Ding Dong Williams.....	mus-com AYC
—	10	3	Do You Love Me?.....	mus-com-c AY
—	2	6	Don't Gamble with Strangers.....	mys-mel A
—	2	1	Down Missouri Way.....	mus-com AYC
2	5	9	Dragonwyck.....	nov AY
—	7	4	Dressed to Kill.....	mys-mel AYC
—	1	3	Drifting Along.....	mus-wes AYC
1	10	3	Easy to Wed.....	mus-com-c A
—	3	2	Faithful in My Fashion.....	rom A
—	4	5	Falcon's Alibi, The.....	mus-cri-mel A
—	3	1	Fedora.....	dr A
—	3	3	Four Hearts.....	mus-rom A
—	2	4	Freddy Steps Out.....	mus-com AY
—	3	3	French Key, The.....	mys-mel A
2	11	3	From This Day Forward.....	war-dr A
—	3	3	Frontier Gunlaw.....	wes AYC
—	2	2	Galloping Thunder.....	mus-wes A
—	5	2	Gay Blades.....	com AYC
—	2	2	Gay Cavalier, The.....	mus-wes AYC
—	1	3	Gay Intruders, The.....	war-nov AYC
—	3	7	Gentleman Misbehaves, The.....	mus-com A
—	—	4	Gentlemen with Guns.....	wes AYC
—	1	3	Ghost of Hidden Valley.....	wes AYC
—	7	10	Gilda.....	mus-cri-mel A
—	2	7	Glass Alibi, The.....	cri-mel A
—	2	2	God's Country.....	mel-c AYC
—	1	3	Great Day.....	war-dr AYC
4	10	2	Green Years, The.....	nov AY
—	1	3	Gun Town.....	mus-wes A
—	3	1	Gunning for Vengeance.....	wes AYC
1	13	3	Harvey Girls, The.....	wes-mus-com-c A
—	2	2	Haunted Mine, The.....	wes AYC
1	7	6	Heartbeat.....	com A
—	2	1	Hello Moscow.....	mus-com A
10	2	2	Henry V.....	dr-c A
—	5	7	Her Adventurous Night.....	com A
—	5	10	Her Kind of Man.....	mus-cri-mel A
1	1	1	Holiday in Mexico.....	mus-com-c AYC
—	3	3	Home on the Range.....	mus-wes-c AYC
—	2	1	Home Sweet Homicide.....	mys-mel A
—	6	9	Hoodlum Saint, The.....	mus-dr A
—	3	5	Hot Cargo.....	war-mel AYC
—	2	6	House of Horrors.....	cri-mel A
2	1	—	Hymn of the Nations.....	mus-doc AYC
—	—	8	I Ring Doorbells.....	cri-mel A
—	3	6	Idea Girl.....	mus-com A

—	2	3	In Fast Company.....	mel	AYC
—	10	2	In Old Sacramento.....	mus-wes	AYC
—	5	6	Inside Job.....	cri-mel	A
—	8	1	It Shouldn't Happen to a Dog.....	com	AYC
—	3	8	Janie Gets Married.....	com	AY
—	5	4	Joe Palooka, Champ.....	com	AYC
—	6	4	Johnny Comes Flying Home.....	war-dr	AYC
—	3	5	Journey Together.....	war-doc	AY
—	5	4	Junior Prom.....	mus-com	YC
—	6	2	Just Before the Dawn.....	cri-mys	A
1	13	1	Kid from Brooklyn, The.....	mus-com-c	AY
—	3	3	Lady Luck.....	com	A
—	1	6	Larceny in Her Heart.....	mys-mel	AYC
—	3	5	Leave Her to Heaven.....	dr-c	A
—	7	1	Letter for Evie, A.....	war-com	A
—	7	4	Little Giant.....	com	A
—	1	4	Little Mr. Jim.....	dr	A
—	3	3	Live Wires.....	com	A
—	4	8	Lover Come Back.....	com	A
—	7	1	Madonna's Secret, The.....	cri-mys	A
—	7	8	Make Mine Music.....	mus-car	AYC
—	1	4	Man from Rainbow Valley.....	mus-wes-c	AYC
—	6	1	Man Who Dared, The.....	cri-mel	A
—	2	6	Mask of Dijon, The.....	mys-mel	A
—	8	10	Masquerade in Mexico.....	mus-com	A
—	1	8	Miss Susie Slagle's.....	dr	AYC
—	1	6	Monsieur Beaucaire.....	mus-com	A
—	9	2	Murder in the Music Hall.....	mus-mys-mel	A
—	3	4	Murder is My Business.....	cri-mel	A
—	1	4	My Pal Trigger.....	mus-wes	AYC
—	5	3	Mysterious Intruder.....	cri-mel	A
—	3	—	Navajo Trail, The.....	wes	AYC
—	2	8	Night and Day.....	mus-biog-c	A
—	3	4	Night Editor.....	cri-mel	A
—	1	11	Night in Casablanca, A.....	com	A
—	1	7	Night in Paradise.....	fan-c	A
—	1	3	Night Train to Memphis.....	mus-mel	A
—	3	1	Notorious.....	mys-mel	A
—	2	5	Notorious Lone Wolf, The.....	cri-mel	A
—	9	4	O.S.S.....	war-mel	A
—	5	6	Of Human Bondage.....	dr	A
—	2	4	One Exciting Week.....	mus-com	A
—	5	7	One More Tomorrow.....	dr	A
—	10	2	Open City.....	war-dr	A
—	1	10	Our Hearts Were Growing Up.....	com	AY
—	1	5	Outlaw, The.....	wes	A
—	6	4	Partners in Time.....	com	AYC
—	2	1	Passkey to Danger.....	cri-mel	A
—	5	4	Perilous Holiday.....	mus-com	A
—	—	5	Phantom Thief, The.....	cri-mel	A
—	9	1	Portrait of a Woman.....	dr	A
—	5	12	Postman Always Rings Twice, The.....	cri-dr	A
—	1	2	Prairie Rustlers.....	wes	AYC
—	2	4	Queen of Burlesque.....	mus-mel	A
—	6	1	Rainbow Over Texas.....	mus-wes	AYC
—	5	3	Rendezvous 24.....	mys-mel	AYC
—	10	3	Renegades.....	mel-c	A
—	2	4	Resistance.....	war-mel	A
—	3	2	Return of Rusty.....	mel	AYC
—	2	6	Riverboat Rhythm.....	mus-com	A
—	2	13	Road to Utopia.....	mus-com	A
—	3	2	Roaring Rangers.....	wes	AYC
—	4	2	Romance of the West.....	mus-wes-c	AYC
—	7	4	Runaround, The.....	com	AY
—	4	7	Scandal in Paris, A.....	cri-mel	A
—	6	9	Scarlet Street.....	mel	A
—	1	6	Searching Wind, The.....	war-dr	A
—	7	8	Sentimental Journey.....	dr	A
—	5	11	Seventh Veil, The.....	dr	A
—	11	3	She Wrote the Book.....	com	A
—	3	—	Sheriff of Redwood Valley.....	wes	AYC
—	3	8	She-Wolf of London.....	mys-mel	A
—	4	7	Shock.....	cri-dr	A

A	B	C			
—	2	2	Sister Kenny.....	biog	AYC
—	5	2	Six P.M.....	war-mus-dr	A
—	1	4	Six-Gun Man.....	wes	AYC
3	11	1	Smoky.....	mus-dr-c	AYC
—	3	5	Smooth as Silk.....	cri-mel	A
—	13	4	So Goes My Love.....	com	AYC
—	10	2	Somewhere in the Night.....	cri-mel	A
—	4	3	Song of Arizona.....	mus-wes	AYC
—	1	3	Song of Mexico.....	mus-dr	A
—	—	3	Song of Old Wyoming.....	mus-wes-c	AYC
—	2	7	Specter of the Rose.....	dr	A
—	2	10	Spider Woman Strikes Back, The.....	cri-mel	A
4	8	—	Spiral Staircase, The.....	cri-mel	A
—	4	—	Stagecoach Outlaws.....	wes	AYC
—	1	4	Step by Step.....	war-mel	A
—	9	5	Stolen Life, A.....	dr	A
—	8	2	Stormy Waters.....	dr	A
—	2	8	Strange Confession.....	cri-mys	A
—	3	5	Strange Conquest.....	dr	A
—	4	2	Strange Impersonation.....	dr	A
—	8	5	Strange Love of Martha Ivers, The.....	cri-mel	A
—	2	3	Strange Mr. Gregory, The.....	cri-mel	A
—	3	6	Strange Triangle.....	cri-mel	A
—	3	4	Strange Voyage.....	adv	A
4	9	2	Stranger, The.....	war-mel	A
—	4	—	Sun Valley Cyclone.....	wes	AYC
—	3	4	Sunset Pass.....	wes	AYC
2	9	6	Suspense.....	mus-dr	A
—	2	5	Swamp Fire.....	mel	AYC
—	5	—	Symphonie d'Amour.....	mus	A
—	2	6	Talk About a Lady.....	mus-com	A
—	3	11	Tangler.....	war-mus-mel	A
—	11	3	Tars and Spars.....	war-mus-com	A
—	6	7	Tarzan and the Leopard Woman.....	adv	A
—	2	8	Ten Cents a Dance.....	mus-com	A
—	7	4	Terror by Night.....	cri-mel	AY
—	4	—	Terrors on Horseback.....	wes	AYC
—	2	1	That Texas Jamboree.....	mus-mel	AYC
—	3	7	They Made Me a Killer.....	cri-mel	A
—	4	4	They Were Sisters.....	dr	A
—	9	4	Three Strangers.....	mel	A
1	3	1	Three Wise Fools.....	com	AYC
—	3	3	Throw a Saddle on a Star.....	mus-wes	A
—	3	3	Thunder Town.....	wes	AYC
—	2	8	Till the End of Time.....	dr	A
3	10	2	To Each His Own.....	war-dr	A
—	2	1	Trail of Kit Carson.....	wes	AYC
—	2	1	Trail to Vengeance.....	mus-wes	AYC
—	—	3	Trouble Chasers.....	com	A
—	2	11	Truth About Murder, The.....	mel	A
—	4	1	Two Guys from Milwaukee.....	com	AYC
4	10	2	Two Sisters from Boston.....	mus-com	A
—	3	5	Two Smart People.....	cri-mel	A
—	3	1	Two-Fisted Stranger.....	wes	AYC
—	2	2	Under Arizona Skies.....	mus-wes	AYC
—	3	3	Undercover Woman, The.....	cri-mel	A
—	2	4	Unknown, The.....	mys	A
1	13	1	Vacation from Marriage.....	war-com	A
—	1	6	Valley of the Zombies.....	cri-mel	A
1	11	3	Virginian, The.....	wes-c	AYC
—	4	—	Wagon Wheels Westward.....	wes	AYC
—	8	1	Walls Came Tumbling Down, The.....	mys-mel	AY
—	4	3	Waltz Time.....	mus-com	A
—	1	7	Well-Groomed Bride, The.....	war-com	A
—	—	4	West of the Alamo.....	mus-wes	AYC
—	—	4	Whirlwind of Paris.....	mus-com	A
—	3	—	Wicked Lady, The.....	dr	A
—	9	3	Wife of Monte Cristo, The.....	adv	AYC
—	5	—	Without Dowry.....	dr	A
—	9	3	Without Reservations.....	com	A
—	7	2	Yank in London, A.....	dr	AY
—	7	7	Young Widow.....	war-dr	A
—	—	3	Youth Aflame.....	dr	A
2	12	2	Ziegfeld Follies.....	mus-com-c	A

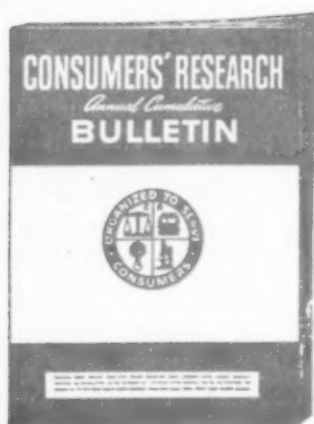
The Consumers' Observation Post

(Continued from page 4)

TINTEX, a household textile dye, is the subject of a complaint by the Federal Trade Commission in connection with misleading advertising. It is alleged that advertising for the product conveys the impression that perfect dye jobs may be obtained with Tintex regardless of the materials or fabrics to be dyed or the colors desired. The Commission contends that certain rayons, especially acetate rayons, can be dyed only with difficulty and frequently require the services of professional dyers.

GERMAN CAMERAS and the question of their reappearance in American markets have been much discussed in photographic circles. One widely circulated rumor suggests that the Zeiss works are being operated by German slave workers, and that Zeiss lenses and cameras may be expected to reappear in the stores at bargain prices—a Contax camera at \$100 or less, for example. According to another tale, the Zeiss works were completely destroyed by bombing, and the machinery, tools, dies, patterns, and blueprints are all gone, with the result that the Contax will never appear again. It is a fact that some German cameras and lenses, in what appears to be new condition, have appeared in camera stores; these are euphemistically described as "liberated" articles, and were allegedly brought in by returning servicemen. No information is available as to whether they are pre-war, wartime, or post-war production (except as to the Luftwaffe model of the Robot camera). While license arrangements under German patents are available through the Alien Property Custodian, CR has heard no reports that any American manufacturer plans to produce American copies of the high-quality German cameras. The ordinary grade of workmanship so far evidenced in American cameras that have been tested by CR since the war might be thought to suggest that American manufacturers do not have much confidence in their ability to duplicate the fine workmanship and careful testing and inspection that went into pre-war German photographic instruments of the higher grades.

NEW PRODUCTS: Veto (Colgate-Palmolive-Peet Co.) is a new paste deodorant



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which sells for 59c the 1.2-oz. jar. It is estimated that the composition is essentially hydrated aluminum sulfate, aluminum metaphosphate, and glycerol monostearate with glycerol, titanium dioxide, cetyl alcohol, perfume, and a high percentage of water. Aluminum sulfate is considered an effective deodorant and the product should therefore have some merit for this purpose. The paste deodorants are on the whole considered to be less irritating to the skin and less damaging to clothing with which they come in contact than the aqueous solutions of aluminum chloride. As CR has previously warned, however, incorporation of aluminum compounds in pastes or creams serves only to mitigate—not completely eliminate—the danger of irritation, and damage to textiles.

Vano, according to a recent trade press note, is now the largest selling liquid cleanser on the Pacific Coast; it is advertised extensively on the radio and in the newspapers and other publications. Vano (29c for 1 qt.) is one of the large family of cleaning products very inexpensively produced by dissolving a detergent sodium compound, the pyrophosphate, in water, sometimes with the addition of a small amount of other detergent, such as soap or soap substitute. Chemical analysis has indicated that Vano is a very dilute solution (less than one-half of 1%) of tetrasodium pyrophosphate. The markup over cost of ingredients for this type of product is very large indeed, as container, packaging, advertising, marketing, and transportation costs take by far the largest slice of the dollar the consumer pays for most of the popular detergents sold by department and household furnishings stores.

Glim, a product now being marketed for dishwashing (27c for 4.2 oz.) has been analyzed and found to be a concentrated organic soap substitute of the poly alcohol-ether type such as Triton NE, or Igepal. The pH of a 1% solution of Glim is 6.52, which is substantially that of pure water, so the material should be very easy on the hands. One bottle-cap full of the material is used in a dishpan of water, the water then run in at full force to produce suds. Soapless detergents of this type have the advantage that they work well in hard water—even function in salt water—and do not produce the curdy deposit that soaps do, when the water is quite hard.

Soil-Off, a clear, light-blue liquid selling in quart bottles for use as a cleanser for painted kitchen walls and woodwork, was found on analysis to consist of about 97% water, 1-1/2% borax, 0.8% trisodium phosphate, 0.7% ammonia water, and a very small amount (0.05%) of sulfated organic detergent (soap substitute). Pine oil is present as a cover odor, and blue dye for color. As illustrative of the way in which the composition of products changes without a change of name, an earlier analysis of Soil-Off, made in 1939, showed the following: About 94% water and 3% borax. It contained soap instead of the sulfated organic detergent, and a small amount of carbonate was present instead of trisodium phosphate.

Consumers' Research, Inc. Washington, N. J.

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Off the Editor's Chest

(Continued from page 24)

may be a good idea to make an extra carbon of your first letter, for "follow up" purposes, to be used just in case the manufacturer does fail to acknowledge or respond to your complaint.

There are undoubtedly cases in which consumers, no matter how well founded their complaints or how well presented, will be given the run-around or have their letters ignored entirely. On the whole, however, CR has been impressed with the trouble that responsible officials have gone to in cases that have been brought to their attention during the past few years to make reasonable adjustments of well-founded, clearly-presented complaints. This attitude will undoubtedly begin to permeate the lower hierarchies of business and manufacturing concerns and sales organizations as it becomes increasingly desirable to cultivate consumers' good will to secure sales on a competitive basis. However,

the practice of writing the head of a company, store, or manufacturing concern when a consumer finds it impossible to secure a satisfactory adjustment of his complaint at a lower level, is one that more consumers should adopt as a matter of policy.

It is not the mere letter of complaint or protest that is important. The statement of the case should be carefully and clearly worded, so that a busy executive can find out what is wrong, if possible, without the necessity of entering into further correspondence to obtain essential details needed to help him reach a preliminary decision. (Too often consumers consider vehemence in expressing their dissatisfaction a substitute for facts and information useful to the firm whose product is complained about, and they write letters that they think are forceful, but which nevertheless fail to state just what the trouble is or just what sort of adjustment is wanted or expected.) It is important to be clear, reasonable, and fair, and to make no statement which cannot be completely substantiated. (It

will serve no useful purpose to *insult* the executive or his sales organization or research department.)

Don't be too ready to blame the local dealer. He may not be even as well situated as you are to get adjustments, either because he's not good at letter-writing (many well-intentioned merchants have difficulty in finding either the time, clerical help, or inspiration for preparing such correspondence) or because the factory in many cases will, as a matter of policy, make the dealer absorb as many of the costs due to defective products as it can. (This has often been true of big concerns which have national reputations and which sell a product that is so much in demand that dealers vie with one another to obtain the local agency for it.)

The manufacturer may not care a great deal about your troubles, but if he is wise, he will be decidedly concerned about troubles you are having with his product which are likely to be representative of difficulties experienced by many other purchasers of his goods.

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†indicates that listings of names or brands are included.

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N.Y. Herald Tribune

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Meat Three Times A Day

by
F. J. Schlink and M. C. Phillips

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"The old menus they have resurrected are something to make a mouth water and to sigh for a return of the days when one might follow a venison steak with a dozen stewed oysters, in the best hotel in town, for a total cost of 75 cents."

—N.Y. Sun

Sirloin steak received its name from King Charles II, who was so pleased with a particular cut of steak that he dubbed it "Sir Loin."

Porterhouse steak was named from the particular kind of eating places that first served it.

The "side dishes" of the late nineteenth century menus were not vegetables as a rule, but "variety meats" such as sweetbreads, tripe, kidneys, brains, liver, and tongue.

The exceedingly large amount of meat eaten in the United States was long the talk of mid-nineteenth century visitors from Europe.

Even working class boarding houses of 1860 had meat at every meal, with ham, beefsteak, mutton, or pork chops for breakfast.

Plenty of meat in the diet has been found to be an important factor in preventing alcoholic cirrhosis of the liver.

Beef with yellow fat may be more desirable than that with white fat because the yellow fat contains vitamin A.

The so-called baby beef is not so flavorful as beef from a full grown animal.

Lean meat in amounts up to three-quarters of a pound daily has been prescribed for those on a reducing diet.